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ABSTRACT

To develop and validate two devices to measure individuals' tolerance for structure and the degree of structure in job requirements as well as to measure the correlates of tolerance for structure and job-personality congruence, 2,500 persons in varied occupational capacities were administered the Tolerance for Bureaucratic Structure (TBS) Instrument and Job Description Questionnaire (JDQ). Findings seem to suggest that people have some set preferences in terms of their work, which are not easily changed once they reach maturity. It would follow from the study that all main categories of jobs should be characterized from the viewpoint of the level of bureaucratization (or tightness) they presently require and that persons seeking jobs or transfers be given the opportunities to test themselves or be tested by the TBS scale with their score interpreted to them. Further, people should be advised to seek jobs which are compatible with their predispositions or at least to avoid those in which they are likely to be uncomfortable. (Author/SN)

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WORKERS' BUREAUCRATIC PREDISPOSITIONS
AND JOB REQUIREMENTS

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PURPOSE OF THE STUDY

There is considerable theoretical and empirical evidence that modern complex work organizations have difficulty achieving both the coordination of individual actions presumed necessary to attain their objectives and, at the same time, satisfying the needs of individuals working in them. One of the reasons for this is that bureaucratic organizations tend to exert extensive control over the day-to-day, moment-to-moment behavior of their employees in an attempt to assure predictability of performance.

Employers have generally considered this a problem of motivation and taken the position of the classical organizational and scientific management theorists that exchange mechanisms are the answer, for example, good pay for dull work; or, alternatively they have adopted the "human relations" approach of attempting to socialize workers in various ways to bring their goals closer to those of the organization.

There is considerable evidence that these approaches are not always successful. However, some of the literature on workers and their jobs suggests that people respond differently to the attempts of organizations to exercise control over their work activity. Theoretically one may assume that the kinds of orientations and/or personality attributes of individuals will influence how they respond to the demands of different jobs. Hence, questions have been raised concerning what personality elements are required to enable an individual to perform comfortably in the relatively structured (and sometimes even res-

trictive) work environment characteristic of bureaucratic organizations.

The notion basic to the present research endeavor is that there is a dimension of personality which has direct impact on an individual's ability to work in and gain satisfaction from jobs in highly structured situations and that this attribute of personality can be identified and measured. We have labeled this dimension, "tolerance for structure." Parallel to this is an analytic dimension of jobs, the degree of "structure", that represents the extent to which jobs demand that workers exercise considerable discipline to regulations based on imposed and distant goals rather than permitting workers to relate at least some of their immediate behavior to goals of their own choosing. Presumably, if there is congruence between the attributes of workers and the requirements of jobs along this dimension, the worker will experience less strain in performing his job.

Such a conception of the relationship between individuals and organizations leads to an alternative approach to the problem of dissatisfaction, turnover, and the inability of disadvantaged workers to hold jobs--namely, the potential for matching individuals more carefully with the requirements of jobs, and/or making alterations in the degree of structure in jobs to accommodate the orientations and needs of individuals.

The purpose of this study has been to develop and validate two devices to measure individuals' tolerance for structure and the degree of structure in the requirements of jobs. The focus of our research has been on individuals occupying semi-

skilled blue and white collar jobs, jobs for which disadvantaged and poorly educated workers might qualify.

The second purpose of the research has been to measure the correlates of tolerance for structure and of job-personality congruence such as demographic and job history variables, other related personality or orientation constructs, and job performance and attitude variables such as retention, supervisory ratings, and job satisfaction.

I. THE THEORETICAL BASES OF THE RESEARCH

A. Introduction

It is virtually a truism that never before in social history have formal complex organizations been the context of daily economic activity for such a large proportion of the population. The question of whether these modern, large-scale organizations can achieve both the coordination of individual actions necessary to attain their objectives and also satisfy the needs of individuals participating in them has a long intellectual history. Writers as diverse as Marx (1964), Freud (1957), Merton (1957), Parsons (1951 a,b), Bell (1956), Huxley (1932), Orwell (1949), Fromm (1955), Argyris (1957), and Blau and Scott (1962) have raised many fundamental questions about the compatibility of individual needs and the role requirements of work in the relatively structured and sometime restrictive environment characteristic of bureaucracies. (See Etzioni, 1964.)

One of the key elements often pointed to as a source of such conflict is that the structure and operation of bureaucracies demand a considerable amount of discipline to imposed goals on the part of participants. In his discussion of bureaucracy and personality, Merton, following Weber (1958), emphasizes that the bureaucracy's need for reliable performance requires "an unusual degree of conformity with prescribed patterns of action. Hence, the fundamental importance of discipline. . . ."

(Merton, 1957, p. 198). Among the changes in the relationship

of the worker to his work brought about by the factory system,

was the widespread requirement that "work in modern industry. . . be regular, workers punctual;" hence, ". . . the disciplines of factory life did not even permit the illusion of independence by the worker. . ." (Wilensky Lebeaux, 1965, p. 58).

Central to much of the theoretical discussion about organizational demands for this type of discipline, is the notion that "individual goals and organizational goals are not equivalent" (March and Simon, 1958, pp. 55-61). Indeed, as Caplow has put it, "the opposition of the individual and the corporate entity is one of the most discussed topics of our time" (1964, pp. 262ff).

Both Marx and Weber considered at length the issue of the control work organizations (especially factories and bureaucracies) exert over individuals. In both this control was seen as a source of discontent--alienation. In this same tradition, the socialist Henri DeMan has written that "all work is felt to be coercive" because, by their very nature, work activities require individuals to subordinate personal and immediate goals and needs to ones that are more remote.

Even the worker who is free in the social sense, the peasant or the handicraftsman, feels this compulsion, were it only because while he is at work, his activities are dominated and determined by the aim of his work, by the idea of a willed or necessary creation. Work inevitably signified subordination of the worker to remoter aims, felt to be necessary, and therefore involving a renunciation of the freedoms and enjoyments of the present for the sake of a future advantage. (DeMan, 1929, quoted in Blauner 1960).

Although this renunciation and therefore this lack of freedom may be present in all work, the degree to which there is self-control and individual choice involved in the work activity varies considerably with the type of work and its setting. Blauner considers the degree of control one has in one's work a critical factor in explaining the differences in job satisfaction among occupations. He suggests this is particularly true in the United States because there is a strong cultural ideal of individual initiative and independence in the area of work (1960).

Weber's central concern (1958) in studying organizations was how power was distributed and legitimated such that the behavior of participants was controlled. However, the power to control one's behavior may be seen as legitimate by workers, yet the exercise of this control may be alienating and difficult for them to tolerate. It may create dissatisfaction that is hard for them to express, partially because the controls are considered legitimate and partly because admission that they lack control of their work is damaging to their self-esteem especially given the norms of society.

The basic demand of bureaucratic organizations is that members discipline their expression of personal and immediate needs, and respond to the more distant and externally imposed demands of the organization. Parsons puts this in terms of a universal dilemma of choice which is present in all action situations. When human action is considered on the most abstract level, all actors are faced with the necessity to define the meaning

of social situation in terms of five different dilemmas (Parson's "pattern variables"). One of these is the necessity for actors to determine whether they will respond to the situation in an "affective," or "affectively neutral" manner, that is, whether they will use the activities and relationships with which they are confronted for immediate psychological gratification or to further a more distant goal. Since social situations (such as work roles) provide actors with normative prescriptions defining how they are expected to resolve this dilemma (in addition to sanctions which reinforce this expectation), the individual is faced with deciding whether to conform. Assuming that, as a personality system, an individual cannot or will not easily adjust to fulfill any and all action requirements, individuals are faced with limitations to their motivational capacity to conform. It is clear how considerable strain can result from such a conflict.

Thus, given the behavioral requirements demanded of many individuals by bureaucratic organizations, namely, often extensive amounts of discipline to imposed rather than self-generated goals, Parson's "neutrality" may be characterized as the normatively expected response to most work roles. For ease of reference, we have labeled those behavioral requirements of jobs the degree of "structure"; we suggest that such structure is an analytic dimension of all work roles. The parallel dimension of individuals, their "tolerance for structure", is also presumably an analytic dimension of personality. Although "tolerance" (or "neutrality" in the Parsonian terminology) is

the normatively expected response to structured work roles, we suggest there is reason to believe this may be a somewhat more difficult response for many people to achieve than Parson, employers, and educators have suggested.

It is quite clear that this conflict of goals is an important source of strain between the organization and the worker and that it is not easily, if ever resolved. Its importance is reflected in the extent to which organizational theorists write about this source of strain (e.g., Caplow, 1964, on the problem of "voluntarism") and businessmen write about their practical problems (e.g., articles typically found in publications such as Fortune, Wall Street Journal, Times, and many others on absenteeism, the refusal of young workers to obey orders, recruitment difficulties, and even executive dropping-out*). A

*See, for example, articles such as the following: "'Psychic Wage' Depreciating?" by Alfred Friendly, Washington Post, 7/12/71; "Labor Day," radio comment by Rod MacLeish, Chief Commentator for Group W, Westinghouse Broadcasting Company, 9/6/72; "Paradise Lost: Utopian GM Plant in Ohio Falls From Grace under Strain of Balky Machinery Workers," by Charles B. Camp, Wall Street Journal, 1/31/72; Judson Gooding, "Blue-Collar Blues on the Assembly Line," "It Pays to Wake Up the Blue Collar Worker," and "The Fraying White Collar," Fortune, July, September, and December, 1970; "Young Workers are Raising Voices to Demand Factory and Union Changes," by Agis Salpukas, New York Times, 6/1/70; "The Roving Kind: Penchant of Americans for Job-Hopping Vexes Companies Increasingly," by Ralph E. Winter, Wall Street Journal, 3/25/70; "Absenteeism Rises at Some Companies Despite a Tightening Labor Market," Wall Street Journal, 7/30/70; "The Dirty Work," Wall Street Journal, 7/16/71; "Workaholics," Wall Street Journal, 2/7/71; "Westmorland Calls Cadence: Army Marches Toward Change," by George W. Ashworth, Christian Science Monitor, 1/18/71; "Mental Illness: Society's and Industry's Six Billion Dollar Burden," by Robert N. McMurtry, Personnel Administration, Vol. 25, No. 4, July-August 1962.

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very telling indicator is the extent to which business organizations spend considerable time and money developing ameliorative programs (e.g., Robert Ford's Motivation Through the Work Itself, 1969, reports one of the largest experiments in job enlargement or enrichment; others have tried the three or four day work week, sensitivity training for supervisors and communication networks.) That this is a more fundamental problem than such superficial devices can cope with is evidenced by the fact that worker levels of satisfaction have not altered for the last thirty years (Robinson, et al. 1969, p. 20). And that none of the above ameliorative programs have been proved effective enough to warrant wide adoption by industry.

Discussions of these and other sources of conflict between the individual and the organization in terms of satisfying the needs of each have at their core the notion that modern institutions are alienating, that is, that they are unresponsive to the needs of their participants. The evolution of modern organizations as unresponsive organizations may be tied, in part, to a basic cultural and ideological conception of the relationship between the individual and society that has permeated much of the conscious post-French Revolution institution building in the West (particularly the United States). This conception is the belief that the individual is highly pliable or malleable and that he can be socialized to perform both adequately and happily in most, if not all, social systems.

This notion is evident in the conceptions which Rosseau, Locke and others developed as a philosophical framework for

desiring the destruction of the old feudal societies which were under the control of absolute monarchies and for encouraging the establishment of new, more egalitarian structures. One of the intellectual roots directing the belief in this change was the conviction that men were perfectable. The process by which the new society would be achieved was conceived of as the creation of new, perfect social institutions which would influence the goals of individuals and guide their interrelationships. One basis of the belief in democratic political institutions, for example, is the conviction that all people can be educated to participate rationally in rational systems of government. Under the influence of good (that is, for the most part, rational) institutions, the perfectability of individuals and thus their harmony with themselves and the society is possible.

These convictions have often been held in the face of evidence that not all modern institutions are "good" for the people who participate in them, although they may be highly rational. Adam Smith, for example, brilliantly foresaw the development of a highly rational economic order in the nascent factory system of the sixteenth century with its roots in the extensive division of labor within the firm. However, he also clearly saw the destructive aspects of this division of labor for the individual:

The man whose whole life is spent in performing a few simple operations, or which the effects too are, perhaps, always the same, or very nearly the same, has no occasion to exert his understanding, or to exercise his invention in finding

out expedients for removing difficulties which never occur. He naturally loses, therefore, the habit of such exertion, and generally becomes as stupid and ignorant as it is possible for a human creature to become. (Smith, 1937, p. 734)

Nevertheless, Smith assumed that this obviously inharmonious relationship between the individual and a central societal institution would be overcome by the development of another institution, the educational system. The stupidity and ignorance nurtured by the factory system that makes workers unsuitable for the military, disrespectful to superiors, and superstitious, could be eradicated because of their educability (p. 735-40).

Thus, particularly since the French Revolution, Western culture has contained the widespread and strong conviction that the control of social structures is the key to the perfectability of individuals and society. This conception of the relationships of the person to society is clearly basic to the development of modern economic, political and educational institutions (although it has not always been the basis of their actual functioning).

In analyzing the American value system, Kluckhohn and Strodtbeck (1961) assert that the perfectability of man and man's capacity to master nature are two central value orientations. Certainly in terms of those values specifically related to individuals' work behavior, the American value system emphasizes the perfectability of individuals and social institutions. The Protestant Ethic, the stress of individuality and

autonomy, the belief in mobility based on individual merit, and the belief that American social institutions should be the model for other societies all reflect this perspective.

In addition, there is a fundamental reliance on basic socializing institutions, primarily the educational system, not only to facilitate economic success and mobility for those committed to these goals, but also to assure that all members of the society are molded and trained to fit into existing social institutions. When this process is not successful, that is when individuals are found "uneducatable" (and there are obviously "failures" of many sorts to be contended with), the blame is placed on the individual's unwillingness to put forth the effort, not upon the system's assumptions or the failure of economic institutions to provide satisfying and meaningful work.

Let us consider the socialization process and the question of how realistic the assumption of almost infinite malleability is.

It is certainly the case that cultures and societies socialize their young to fit into the structures within which the young must eventually participate. The "perfability" conception of this process does allow for the obvious possibility that the socialization of youth will be incomplete either because they are not prepared directly to participate in specific adult roles, or because the process is not uniform across all parts of the population (witness the idea of a lower class "culture of poverty"). However, the society is willing

to tolerate some deviance, to train and resocialize others to assume adult roles, and even to undertake compensatory educational programs to assist the least well prepared adapt themselves to fit existing roles.

It is also the case, however, that socialization may result in a substantial lack of fit between a far larger number of individuals and the societal institutions than this conception suggests. Certainly whole scale defection from participation in central roles (including economic roles) would be a major, if not fatal, problem for the society. Although this is obviously not the case in the United States, the incidence of dissatisfaction and indifference in many work roles indicates only a minimal level of commitment on the part of these workers. (Blauner, 1960; Wilensky, 1964; Herzberg, et al. 1957; Vroom, 1964; Robinson, Athanasious, and Head, 1969). This reflects a far from complete integration of individuals in the society and one of their major social roles. Phenomena such as this suggest that, contrary to the prevailing value system, individuals may not be as pliable as has been assumed and existing social structures may not be as personally rewarding to their participants as believed.

"Alienation" as it is often used suggests that societal institutions have been created that are strain-producing precisely because they have not taken into account those needs of individuals that are sufficiently basic to be both widespread and relatively resistant to change under varying institutional conditions. Whether it is clearly stated or not,

this is a fundamental assumption of much of the alienation tradition in Western thought. Marx ties the lack of individual freedom to a particular institutional context, by stating that it results specifically from the alienation of labor characteristic of a market economy. He speaks of man being deprived of his real essence, his "species being", under the conditions of forced labor characteristic of a capitalistic, market economy.

What, then, constitutes the alienation of labor? First, the fact that labor is external to the worker, i.e., it does not belong to his essential being; that in his work, therefore, he does not affirm himself but denies himself, does not feel content but unhappy, does not develop freely his physical and mental energy but mortified his body and ruins his mind. . . . His labor is therefore not voluntary, but coerced; it is forced labor The external character of labor for the worker appears in the fact that it is not his own, but someone else's, that it does not belong to him, that in it he belongs not to himself, but to another So is the worker's activity not his spontaneous activity. It belongs to another; it is loss of his self. . . . It is just in his work upon the objective world, therefore, that man first really proves himself to be a species being. This production is his active species life. Through and because of this production, nature appears as his work and his reality. The object of labor is, therefore, the objectification of man's species life. . . . In tearing away from man the object of his production, therefore, estranged labor tears from him his species life, his real objectivity as a member of the species (1964, pp. 110, 111, 114).

Blauner, in his discussion of alienation, suggests specifically that "the need for autonomy and independence may be a

more deep-seated human motive" than has been recognized by those who emphasize the conformity (everyone being fit into similar social roles) said to characterize modern society (1960). He concludes that,

. . . . we must anticipate the day when the utopian solution of eliminating assembly line production entirely will be the practical alternative for a society which is affluent and concerned at the same time that its members work with pride and human dignity.

Etzioni makes this underlying assumption explicit in his discussion of alienation. According to Etzioni (1968, p. 618), the concept of alienation as "the unresponsiveness of the world to the actor, which subjects him to forces he neither comprehends nor guides" requires a conception of "basic human needs."

. . . Without an analytic concept of autonomous needs, it must be concluded that there is, in principle, no limit to manipulability--that the members' needs are basically pliable in that they can be changed to fit the societal structure rather than require a transportation of the structure to achieve a higher level of responsiveness. (p. 622)

Therefore, basic to the alienation theme is the notion that there are limits to the pliability of individuals. This counter intellectual tradition suggests that when powerful institutions exert what is often a coercive influence on individuals to conform, they may pass some unspecified limits of individual tolerance in their demands; strain and lack of

personal fulfillment result. Indicators of this strain must be sought, trying them conceptually and empirically to specific role structures.

The alienation tradition, therefore, focuses on the functioning of social institutions and leaves the psychological dimension as a set of assumptions about "basic human needs," the content of which is usually left vague. (An exception to this is a brief discussion by Etzioni, 1968, pp. 622-32.)

Another expression of this challenge to the pliability assumption of people's relationship to society comes out of psychology, probably most influentially in the works of Freud. Here the focus is on the functioning of the psychological system and it generally ignores the sociological level or leaves it as a set of assumptions.

The conception of individuals presented by Freud in his theoretical and clinical materials is that of a relatively unchanging personality system once the first few years of life have been passed. The most important aspect of this conceptualization in our context is the assumption that personality is extremely difficult to alter although Freud also attempted to deal with the issue of basic, which he later defined as instinctual, human needs. His, as well as other psychological perspectives, offer a strong challenge to the hopeful optimism of those who would seek to perfect society through the ability of rational and well constructed institutions to alter human motivations and behavior on a wide scale. In addition, the poor results of educational and other compensatory programs

as well as the rather stable levels of job dissatisfaction among workers over the last thirty years offer challenging data.

There are, however, alternative approaches to personality which are more in line with the pliability tradition of American culture:

Situationism maintains simply that human beings respond as situations require them to respond; and that whatever their biological diversities, they will, if capable of learning, take on the attributes which the situations call for. . . Given a changed situation, there is a changed role and consequently a changed personality. (Murphy, 1947, pp. 867-8.)

It is conceptions such as this that result, as noted above, in the blame for failure being placed on the individual who is unwilling to be "educated" into fitting the social slot for which he has been prepared.

Such psychological perspectives as these have been found by many psychologists too narrow to explain the realities of human behavior. For example, according to Allport (1937) and Murphy (1947), among many others, personality theory must incorporate both situational and organism factors in understanding human behavior. Psychologist Abraham Maslow (1954) has confronted the question of organism factors directly by asserting that there is a hierarchy of basic human needs. These begin with survival factors and move "upward" to needs for self-actualization and self-esteem. Maslow suggests that only when the basic survival and maintenance needs are satis-

fied is there pressure for the fulfillment of other, 'higher' needs. With the decline of a scarcity economy in most of the West, it would seem that needs for self-actualization and self-esteem would be widespread, encompassing all but small pockets of those citizens in abject poverty. Indeed, other writers such as Argyris (1964, and 1957) suggest that such personality needs are central to mature personalities in Western society and that they are not being met by the majority of work roles in the society.

. . . .the statements of Maslow and Argyris, although too broadly drawn, indicate important differences between what men may want in their work and what they in fact are confronted with. (Tausky, 1970, p. 82)

The sociological concern with the socialization process also reflects the same differences in perspective concerning the individual and social institutions. Theorists such as Mead and in recent years Talcott Parsons conceive of individuals as highly socializable so that most are able to conform to a wide, if not infinite, range of social arrangements. Strain arising from lack of compatibility between individual (personality) needs and institutional needs is not seen as a major societal, or sociological problem. In contrast, other writers, notably Marx, Weber and the contemporary writers concerned with alienation, have stressed the extent to which modern social structures fail to satisfy the needs and goals of individuals.

Parsons has raised theoretically the issue that all social structures face the problem of assuring that specific system

needs are congruent with the specific personality needs of actors. For example, for organizations to function as goal-oriented social systems, there must be "integration of a set of common value patterns with the internalized need-disposition structure of constituent personalities" (Parsons 1951a, p. 42). Although Parsons considers the existence of such congruence theoretically problematic in all social structures, he does not perceive the problem of incongruence to be a major societal problem; it is, therefore, not a major conceptual one either. The socialization process, both in childhood and after, assures that, for the most part, social roles as designed in the particular society and culture will be filled adequately without disfunctional stress.

Etzioni, on the other hand, represents the alternative view of the socialization process, namely, that such compatibility is not only problematic, but that it can be (and is in modern society) a major societal problem. He proposes (1968, pp. 622-32) that many social structures fail to satisfy "basic human needs" and that this encourages the alienation and other high psychic costs which are evident throughout economic structures. These social arrangements continue because "persons can be mobilized into roles incompatible with their needs, which they otherwise would not seek, in order to gain some emotional security" but there is a price to be paid for this in that "needs other than that for stability will not be gratified and will not adapt so that they can be satisfied in these roles."

Both of these perspectives on the relationship of individuals to their social roles are evident in the key conceptions

of how important social institutions should be designed and managed. But it is clear that belief in almost infinite malleability has held a dominant position in developing and controlling economic institutions, educational programs and, more recently, compensatory programs for the disadvantaged.

It seems quite clear that the assumption underlying the revolutionizing effects of the scientific management movement was that individuals could be treated as adjuncts to machines. This meant that they could be fitted into any work role so long as (1) the job was sufficiently broken down that any skill required resided in the machine, not the individual and (2) there was an authority structure providing sanctions to assure the tasks were carried out as designed. Lyndall Urwick was an early creator of the branch of the scientific management tradition concerned with organizational structure and administration (as were Weber and Favol). He conceived of management as being concerned with systematically fitting workers into work roles that were rationally designed to maximize productivity as if these individuals were simply another raw material ("human capital" in the contemporary terminology). According to Gross (1964, p. 145),

Urwick defines organization as 'determining what activities are necessary to any purpose (or "plan") and arranging them in groups which may be assigned to individuals.' It should be undertaken 'in a cold-blooded, detached spirit,' like the preparation of an engineer design, without reference to any individuals who may now be in the organization. Every effort must be made to find or fit people to the structure. (Elements of Administration, p. 34-39).

This is not an altogether antiquated view if one examines the personnel practices of many American companies. However, problems with absenteeism, turnover, and employee dissatisfaction have caused American industry to reconsider, at least to some extent, the effectiveness of such an approach. One observer from inside management has succinctly defined the past and present situation in industry as follows:

The labor shortages and high costs of World War II precipitated many ingenious responses to the need for more productivity, better quality, lower turnover, reduced costs, and better employee morale. All the major trends during the period from 1940 to 1965 were aimed at making the employee feel better about his job or about the company, with the hope that he would then improve his work. . .one thing is clear: In the 25-year effort to motivate employees along these lines (from reducing hours and increasing wages, to better training of supervisors in human relations skills and 'employee communication'), a satisfactory and lasting solution has not been found despite the efforts of many concerned and intelligent supervisors. . . There is now a minimum threshold of job acceptability, vague but real. . . .Workers often seem quite indiffirent. (Ford, 1969, pp. 22-3).

Ford is suggesting that not only did the harsher scientific management approach fail to solve the problem of assuring workers would fulfill the task requirements of their jobs, but that the so-called "human relations" approach also failed. We suggest that one reason both have been inadequate approaches to worker motivation is that they both assume the almost total pliability of the worker and seek to control his behavior by financial reward and by manipulating certain aspects of the

interpersonal environment (the "good institutions create good people" theme noted above). Although the early human relations approach challenged the classical scientific management assumption of Taylor, Urwick and others that workers had only economic needs to be satisfied by their jobs, they still made the basic assumption that, under the right interpersonal conditions, individuals could be fitted into existing work situations. As reported by Tolman, Kurt Lewin, for example, believed that,

If we can but discover . . . those laws whereby a given 'life-space' inevitably produces a given behavior, then we can know how to change persons and groups to remake their behavior according to our hearts' desire. (Tolman, 1948)

Of this approach to industrial relations, Thompson concludes that,

'Managerial sociology' (i.e., 'human relations') has performed the ideological function of diverting attention away from needs for institutional change by emphasizing the possibility of fitting the individual into the existing institutional structure. Keeping problems on the level of individuals protects the integrity of the institutional structure by presenting officials with a series of individual problems rather than with the need to revamp the whole structure and the possibly fatal admissions which that course of action implies. (1961, p. 122)

For example, one answer to industry's estimated 3 billion dollar annual costs resulting from "mental illness" of its employees is provided by "an authority in personnel management (and) industrial relations" who proposes ". . . the handling of many 'problem' cases (through chemotherapy; specifically, . . . the wider and more systematic use of tranquilizers." (McMurry, 1962,

emphasis in original). The perspective of the writer quoted here differs from those of most other human relations experts in that he is in the psychological tradition that sees individuals as difficult to change as far as their motivation and extent of mental illness. His approach to the practical solution of the problem of mental illness in industry, however, is in the human relations tradition insofar as it emphasizes manipulating individuals to fit into existing institutional arrangements.

A few other recent writers of the human relations school also regard with skepticism the assumption that management can change individuals so that they are "adjusted" to any work situation for which they are needed. William F. Whyte, for example (1961, p. 39), suggests that research is lacking concerning what personality needs individuals bring to their jobs and effects of those demands made by their jobs: "If we can describe personalities and social requirements of jobs in the same terms, we can advance our knowledge of the relations of individuals to organizations." Herzberg (1959, 1966) and Ford (1969), among others, have also suggested that workers have a broader range of needs to be filled by their work, and that the job itself may have to undergo some intrinsic changes in order to satisfy them.

Nevertheless, there is considerable evidence to indicate that such approaches have made little inroad in the approach of management to the relationship between their employees and their jobs. Certainly the notion that their employees are

highly malleable subjects for whatever programs of improvement are developed continues to prevail in industry. If this were not so, industrial psychologists would not have to write in journals such as Personnel Administration that management ". . . must discard many more realistic ones" namely, that "it is not going to be able to bring about any significant change in (their employees) as persons" and that "efforts to shape attitudes by counselling, admonitions, formal training, or public or employee relations activities are rarely effective" (McMurry, 1962).

Such insights have also not seriously influenced national policy, for example, in the area of compensatory programs aimed at those disadvantaged by erratic work histories and inadequate education. The national manpower policy aims to assist such workers "adjust" to the regular labor market (U.S. Department of Labor, 1968,). The goal of such policy is an admirable one, namely that the disadvantaged worker has the right to participate in the economy, such that he earns a living wage for himself and his family. However, this goal is to be achieved through federal support of the "adjustment process" which is aimed at "fitting a new kind of worker into a traditional work assignment" (p. 105).

Underlying the programs developed to implement this goal is the traditional assumption that the right institutions (namely educational, job training, and counseling programs) can fit any willing person into existing economic molds. Such programs skirt the vast difficulties in finding sufficient

jobs for such workers, jobs providing culturally acceptable levels of pay, working conditions, and social esteem. Equally important, this approach ignores the fact that even many well paid workers in relatively prestigious blue and white collar jobs do not find satisfaction in their work so that even their motivation is reduced. In light of these facts, it is difficult to assume that individuals substantially more alienated from economic as well as other institutions, people with a vast store of disappointment, frustration and deprivation, will develop new levels of motivation to fit themselves with ease into some of the least acceptable jobs in the system. Since economic security from labor market participation has hardly been a part of their previous experience, it is unlikely that they will easily, if ever, develop a strong enough need for the minimal level of security provided by the jobs they are offered to overcome the dissatisfactions and stresses related to such jobs.

Nevertheless, this is the underlying expectation of such ameliorative attempts as the various manpower training programs of the U.S. Department of Labor and other organizations that are aimed at helping the hard core unemployed. Their belief is "in the constructive impact work has on behavior" (p. 101), and that "the majority can be brought to the point of employability by a combination of manpower and social services" (p. 204). However, the far from promising results of such programs in the recent past have caused considerable concern about the policies. Although certain changes have been

forthcoming, the thrust of the endeavor is still to create "good" institutions to change people so that they fit into or "adjust" to existing structures. Of course, "it will be necessary to continue services to workers over a much longer period than has been usual in the past. Lengthening the period of (federal) responsibility, of course, means higher costs" (p. 107). That is, more of the same thing that didn't work before.

This commentary is not to debunk the goals that are incorporated into these national policies, but only to examine the assumptions upon which the means to these ends are based. Although the programs acknowledge only minimal success, they do not face the vast difficulties if not impossibilities implicit in the two underlying requirements for their success: first, the development of a large number of low skilled jobs that meet attractive levels of pay, working conditions, and status; and second, the alteration of deeply embedded expectations, values, and motivations in the people needing these jobs. That the latter can be achieved is an assumption that characterizes the philosophy of the entire American educational system, of which compensatory programs are only one, albeit important, part.

Thus, the orientation of such programs as well as many of the moves on the part of industry to improve worker satisfaction and reduce absenteeism and turnover, make the dubious assumption that individuals are highly pliable and can thus be fitted into existing job slots many of which are highly structured. If we turn to another body of literature, how-

ever, there is some evidence that individuals differ in terms of their response to the same job conditions. This suggests that a fruitful approach both to understanding the individual's relationship to his job and to improving that relationship might be the matching of individual's work orientations or personality attributes with the requirements of the job.

Theoretically one may assume (and there is some data to support such an assumption) that the kinds of orientations and expectations brought to the job by the worker will influence how he evaluates the contribution of various aspects of the job to his general satisfaction or dissatisfaction. (Vroom, 1960 and 1964; Barrett, 1970; Blauner, 1964; Turner and Lawrence, 1965.) To the extent that an individual has, for example, an "instrumental" orientation toward his job, he may be consciously willing to put up with lack of some personal need fulfillment in return for a given level of financial reward. To the extent such an exchange is acceptable, workers are likely to feel little strain in their work performance and to report general satisfaction with their employment (although the same workers will probably note that their specific tasks are not at all satisfying). (See for example, Goldthorpe, et al, 1968.) In this way, therefore, many workers are likely to report that their affective needs are not being engaged by the nature of job they do and that this produces some discomfort. Whether this discomfort is "tolerable" or "acceptable" or not, partly depends upon what orientations they bring to their jobs.

In expanding our knowledge of the impact of job requirements on individual attitudes and performance, we must therefore

analyze both the specific orientations the worker brings to the job and the specific behavioral requirements he confronts. Such an analysis requires, however, a careful conceptualization of the analytic dimension of roles suggested above--the degree of "structure" characteristic of work roles, and a similar conceptualization of the parallel dimension of personality--the worker's "tolerance of structure."

This necessity to consider the relationship of the individual and the work organization at the level of the role and thus to empirically tie specific structural conditions to individual attitudinal and behavioral responses has also been raised by Wilensky (1964). Wilensky has called for the reformulation of the Marxian and related conceptions of alienation to provide clearer definitions and sociological meaning. Specifically, he suggests,

The problem is to link specific attributes of social structure in the work-place to the private experience--the troubles, the jobs--of the person. Let us define social alienation as the feeling that routine enactment of role obligations and rights is incongruent with prized self-image, e.g., the kind of fellow I am at my best is not the kind of fellow I am obliged to be as assembler in work crew, father in family, member in church, union, or voluntary association. (1964, p. 140)

Working with data collected on both workers' reports as to the important aspects of their own self-images and on the characteristics of their jobs, Wilensky attempted to measure the extent to which individuals and jobs are either matched (workers therefore being "attached" to their work), incongruent

("alienated"), or unrelated in terms of important characteristics (in which case workers are considered "indifferent" to their work).

Our approach is in a similar vein. However, we begin with a theoretically based assumption that for many individuals, working for long periods of time at activities which demand discipline to imposed rather than self-determined goals, is non-gratifying. We have suggested, based on the nature of formal organizations, that such demands are frequent but take many forms. Therefore, we have proposed an analytic and structurally based dimension of all work roles, the degree of "structure," that is the extent to which the actual work role requires individuals to discipline their behavior based on goals which are set by others. Such discipline is likely to be non-gratifying to many workers because the sense of mastery or control gained by establishing the goals for one's own activity is not obtained and because external discipline is likely to interfere with the worker fulfilling personal goals that he sets or would like to set in relation to the work itself or other desirable activities while on the job. In this situation, we expect strain to result.

We also, however, begin with the notion that individuals differ in their tolerance for such job requirements and thus the "strain" will vary depending upon the orientation of the individual to those requirements, that is the degree of "tolerance for structure".

Now let us turn to the specific theoretical backgrounds upon which rests our development of the two measurement devices designed to measure the degree of Tolerance for Structure (an individual, or personality attribute) and the extent of structure in jobs (a role attribute).

B. Tolerance for Structure: An Analytic Dimension of Personality -- An Orientation toward Work

Although the tradition of intellectual concern with the particular personality requirements for working in a bureaucracy is relatively extensive, the empirical work in this area is quite limited. Certainly there is an extensive literature relating various personality traits, such as authoritarianism, to specific, limited aspects of an individual's work behavior and attitudes, particularly the relationship between supervisory styles and the psychological characteristics of workers. (Vroom, 1960 and 1964; Likert, 1961; Herzberg, 1959 and 1966; Wilensky, 1964, among many others.) However, jobs are complex social roles composed of many different elements to which the worker must react simultaneously, supervisory relations being only one of these. Little has been done to examine the interactions of the worker's personality and the structure of the total work role as the worker experiences it day in and day out. Naturally, not every aspect of the job and its setting is expected to have the same weight in terms of worker reactions. However, certain key analytic dimensions of jobs as work roles may be hypothesized as critical variables for the

understanding of an individual's response to his job.

As suggested above, there is a long and substantial tradition of thought to support the contention that there is a "bureaucratic" dimension of jobs which is reflected in all aspects of the work role (supervisory relations, job content, rules of conduct, interactions, etc.) and which critically influences the responses of workers to their jobs. It is suggested that a corresponding dimension of personality exists which influences how an individual will respond to jobs that demand more or less of such discipline. Indeed, several other writers have suggested that research on the relationship of personality and role requirements in large scale organizations is essential: "We certainly need other studies using a contingency approach to investigate more fully the personality needs of managers and workers in relation to both technology and organizational setting" (Lorsch, 1970, p. 18).

The literature contains a number of references to attempts to relate personality to bureaucratic work roles. Leonard Gordon (1970), for example, has developed an instrument to measure an individual's preference for different work environments, particularly bureaucratic ones, drawing his baseline concept entirely from the Weberian ideal type of bureaucratic organization. Regis Walther (1964) has also developed an experimental instrument designed to measure thirty-seven personal qualities of workers which influence job performance. Several of these may be described as broadly related to

bureaucratic job requirements. Borgatta and Bohrnstedt (1971) have also developed a measure of work attitudes, contrasting risk orientation and hygiene or maintenance orientations (similar to "bureaucratic" orientations) as a test for use in establishing "an individual's management potential." However, all of these scales were designed for use with middle class workers who have no difficulty responding to rather complex and abstract language. In contrast, the attempt here was to construct an instrument for use with a wide range of workers and potential workers, including those with very limited formal education.

In addition, the conceptual base of the personality dimension presented here has a somewhat different focus from those of other researchers. It has already been suggested at length that most work organizations are characterized by a considerable need to regulate and structure their members' behavior so that organizational goals are attained. Hence, on the most general level, the basic demand of such organizations is that their members discipline their expression of personal and immediate needs, and respond to the more distant and externally imposed demands of the organization. Although in modern society this particular demand is made more frequently than in other historical settings, Parsons suggests that it reflects one choice in a universal dilemma. When human action is considered on the most abstract level, all actors are seen as faced with the necessity to define the

meaning of all situations in terms of five different dilemmas (Parsons' "pattern variables"). One of these is the necessity for the actor to determine whether he will respond to the situation in an "affective" or "affectively neutral" manner, that is, whether he will use the activities and relationships with which he is confronted for immediate psychological gratification or to further a more distant goal. Since social situations (such as work role) provide the actor with normative prescriptions which define how he is expected to resolve this dilemma, the individual is faced with deciding whether to conform. Assuming that, as a personality system, an individual cannot or will not easily adjust to fulfill any and all action requirements, individuals are seen as faced with psychological limitations to their desire and capacity to conform.

Given the behavioral requirements imposed by the structure of bureaucratic organizations,* "neutrality" may be characterized as the normatively expected response. Conceptually, therefore, we may tie this abstract notion to that of a bureaucratic personality dimension or the tolerance for bureaucratic situations. As the normative prescription for behavior in bureaucracies, "neutrality" refers to the requirement that individuals evaluate their behavior in terms of the specific consequences of the situation for the organization rather than act in whatever way brings them the most immediate

*We shall discuss these requirements at length in the next section.

gratification without regard for evaluation. It is a question of whose interests are to be given most consideration. On the psychological level, it is the distinction between permissiveness and discipline, with the former referring to immediate gratification in the psychological sense (Parsons, 1951b, pp. 80-84).

It is this ability to accept discipline, to choose to evaluate one's actions in terms of distant goals which are relevant mainly to the organization, that is being measured in workers' orientations toward their work roles. If one turns once again to organizational theories of bureaucracy, particularly the Weberian tradition, it is necessary to consider an individual's orientation (neutral or affective) toward three aspects of the bureaucratic setting: the rules and regulations inherent in bureaucratic structure, hierarchical or authority relationships, and task activities. It is likely that individuals who exhibit the willingness to exercise self-restraint in these three specific areas of work behavior are those who can most easily tolerate the demands of a structured or bureaucratic work situation.

C. Structure as an Analytic Dimension of Work Roles

In the introduction we have discussed the notion that jobs require individuals to limit their personal behavior in accordance with prescribed forms of activity. Such limitations and prescriptions are constraints or controls--demands for

"neutrality"--from the role occupant. This is the dimension of jobs we have called "structure." In this section we suggest that several sources of such constraint or "structure" can be distinguished; that previous theoretical and empirical research on jobs and work behavior have touched on, but not specifically identified, this analytic dimension of work roles; that the degree of structure varies from job to job even within relatively low-skilled, blue collar jobs; that this aspect of work is salient to workers themselves; and that it can be measured.

Since we are concerned with the extent to which the requirements of a particular job demand discipline and limit individual choice behavior on the job, our discussion will focus on the work role, not on the type of organization in which that role is located, the behavior of specific occupants of that role, or its formal description. The notion of structure as an analytic dimension of jobs cross-cuts all of these aspects insofar as they contribute to restricting the worker and structuring his behavior. This is a single slice of the entire work role.

The body of this section is concerned with identifying the various sources of structure in work roles. We draw on the theoretical and empirical work that has been done in related areas for insight into jobs, organizations, and work behavior. For those who are not interested in such a detailed discussion, the next few pages will briefly summarize its

conclusions, namely that there are two major sources of structure (two sub-dimensions of the concept) and that there are three analytic components of work roles through which we can understand the ways in which these demands impinge upon the activities of the worker.

1. The Two Sub-Dimensions of Work Role Structure

We have already noted in the opening discussion that organizational theory implies that structure or constraint is imposed on the roles that comprise large, complex organizations. That is necessary in order to assure their goal attainment. This suggests that one source of structure is the organization itself. Through their administrative control and the technical programming of tasks, large scale organizations have considerable control over the design of work roles and, hence, make continual demands on the behavior of workers. There has been considerable discussion and research on the technical aspect of jobs--from scientific management. ("Taylorism" and its modern work design approach including the notion of job enlargement) to research on the impact of various technologies on worker attitudes and performance. (Among others, Turner and Lawrence, 1965; Blauner, 1964; Udy, 1959.) The administrative aspect of jobs has an equally long history of consideration, the classical analysis being Weber's discussion of the administrative structure of legal-rational or bureaucratic organizations. Whereas the technical source

of structure tends to be horizontal (the flow of work and intra-task organization), the administrative source of "structure" tends to have a vertical emphasis (the hierarchy of supervision and the flow of communication).

Together we label these organizational sources of structure the bureaucratic sub-dimension. The extent to which organizations actually impose structure on specific roles is an empirical question, but organizational theory suggests a number of specific ways which we shall enumerate below. Although we use the term bureaucratic, we remind the reader that the level of analysis with which we are dealing is the role. The term bureaucratic more conventionally refers to the organizational level. We use the concept because the type of structure we shall identify has as its source the organizational setting.

The second source of structure is made evident by an entirely different tradition of concern with jobs. There is a substantial literature on various styles of supervision, interaction patterns between people on different levels of the hierarchy, and a few (but far between) discussions of organizational rules and their enforcements. Although immediate supervision is the most frequently discussed aspect of monitoring role behavior, there are also ways to do so from higher up in the organization (time clocks, for example, are not administered by the supervisor). There is a range of methods available to the organization and to the supervisor through which each governs, regulates and structures role behavior.

The exercise of this type of power to demand discipline from role occupants may have an arbitrary quality that is totally antithetical to the concept of bureaucratic administration. Indeed, there is no reason to assume covariance between two sources of structure (the extent to which a role is bureaucratically structured and the extent to which it is tightly rather than loosely managed). For example, the role may be directly supervised in a monistic system of supervision (a classic bureaucratic characteristic) but checking upon the worker is infrequent and sanctions for error are minimal (a general or loose rather than a tight monitoring of role performance).

Therefore, we shall call the type of structure resulting from role management the tightness sub-dimension of the role. As a source of demands for discipline it differs considerably from the bureaucratic sub-dimension. It can be highly arbitrary, although it need not be. It tends also to be a less formalized source of "structure" than do the bureaucratic sources since it involves interaction between the role occupant and superiors rather than administrative and technological designs.

Gouldner (1954), for example, describes the enforcement of rules (tightness) as something which comes and goes depending upon management's perception of the workers' commitment to their work. In contrast, the bureaucratic sub-dimension of structure tends to be more static--built into the formal design of the work distribution, administrative hierarchy,

etc., and not as subject to short range change. The pejorative use of the term bureaucracy suggests just this static quality of organization. However, since many of those bureaucratic characteristics which create structure are subject to activation or non-activation by superiors, the tightness with which roles are managed varies. For example, there may be many rules and regulations governing what the worker may or may not do while on the job (bureaucratic rules); if these rules are sternly enforced, the role is not only bureaucratically structured, but it is also tightly managed and thus structured. However, the same bureaucratically structured role located in another department of the same organization may be loosely structured.

Therefore, we have identified two analytic sub-dimensions of work roles that are suggested by two very different traditions in the empirical and theoretical study of work and organizations. Both of these sub-dimensions contribute to the amount of structure in the work roles by making demands for discipline on the worker. There is the administrative and technical design of the work role--structure having its origins in the organizational or bureaucratic setting in which the job is located. This is the BUREAUCRATIC sub-dimension. There is also the way in which the role is managed or monitored, given its position in the organization and the tasks assigned it. This source of structure relates to the enforcement of rules and the closeness with which the worker's activities

are observed and sanctioned. We call this sub-dimension of structure TIGHTNESS.

In order to describe more specifically how work roles are structured, we suggest three components of work roles where the demand for discipline can be introduced in either of the above ways.

Much of the writing on organizations suggests three components of all work roles in which the individual is likely to have demands made directly upon him: his task related activities, his general conduct on the job, and his supervisory relations. For example, in the Weberian model of bureaucratic organization, we find emphasis on the distribution of tasks into specific "duties," the proliferation of rules and regulations to ensure continuity and coordination, and the hierarchical arrangement of relationships. The work role, regardless of its location in the organization, will be administratively defined and also managed through (1) the design of its task area and procedures (to define expected performance); (2) the organization of its supervisory relationships (to check on performance); and (3) the rules and regulations pertaining to conduct on the job (to insure reliable performance).

Figure I-A presents the conceptual scheme for defining the structure dimensions of work roles. The two sub-dimensions of the concept are related to the two sources of demand for discipline and the three components of the role where

these demands are felt.

FIGURE I-A

The Structure Dimension of Work Roles

SOURCES OF DEMAND FOR DISCIPLINE	Components of Work Roles		
	Task Specific Activities	Supervisory Relations	General Conduct
Organizational and Technical Design of the Role	1	2	3
	BUREAUCRATIC SUB-DIMENSION		
Management or Monitoring of the Role	4	5	6
	TIGHTNESS SUB-DIMENSION		

Let us now turn to the detailed explication of these sub-dimensions. In discussing the various sources of structure, we shall examine how this dimension of work roles cross-cuts other work that has been done on describing jobs and organizational behavior. In doing so, we shall fill the six cells of Figure I-A with more concrete characteristics of structured jobs. This will be preparatory to operationalizing the concept of structure.

2. The Bureaucratic Sub-Dimension of Structure: Organizational and Technical Design of the Role

Structure is derived from the bureaucratic organization

of the work setting. Large scale organizations are rationalized, bureaucratic, and require substantial discipline from individuals. The content and extent of the demands for discipline will vary depending upon where the role is located in the organization and how the role is defined in terms of task performance and conduct requirements. Highly structured roles will have these elements clearly and quite precisely defined. They will not vary much, if at all, when the occupant of the role changes. Less structured roles will have the scope of their activities and authority a more open issue. The worker will have greater freedom to manipulate the role definition and to control the activities by which he carries out his tasks.

The discussion of whether all rational organizations are also bureaucratic organizations in the Weberian sense is based upon the fact that not all large scale organizations are empirically alike (Stinchcombe, 1959; Udy, 1959; Litwak, 1961). The methods of administering large organizations differ and not all methods which do not conform to the bureaucratic model can be excluded from the rational category. We are concerned with identifying sources of structure regardless of the organization's specific form of administration. It will exist to some extent in all work roles regardless of how they are organized; however, in some organizations, notably those characterized by the bureaucratic form of administration described by Weber, the degree of role structure will be

greater. (Craft administration and the professional administration are models likely to contain less structured roles.) It is for this reason we call the organizational level sources of structure the bureaucratic sub-dimension.

a. Bureaucracy as a Continuous Variable

One might conclude from the Weberian tradition in which bureaucracy is treated as a dichotomous variable, that organizational structure alone can be used as an indicator of the characteristics of work roles within them. This is clearly not the case. It is not only extremely difficult to create meaningful measures distinguishing types of organizations,* but even when one does, there is no reason to assume that all roles within even a single organization will be the same.

Hall (1962) has attempted to demonstrate that the classification of organizations as "bureaucracies" must be based on an empirical measurement because bureaucracy is a continuous variable, composed of several dimensions which are continual

*Tausky (1970, pp. 12-21) summarizes the various typologies or classifications of organizations that have been developed. He suggests that many are not informative "because there is not an adequate relationship between the basis for the classification and the types of structure." Hall, Haas, and Johnson (1970; Tausky, 1970, p. 17) show that it is extremely difficult to differentiate between organizational structures using several of the classification schemes. Their conclusion is that classifications should be more empirically based.

and may vary independently. This indicates, as we suggested above, that bureaucratic organizations vary considerably even when they are of the same size and type. According to Hall organizations may institutionalize the six Weberian characteristics of bureaucracy to differing degrees. Even within the same organization, different departments or sub-divisions may differ considerably. Therefore, it is clear that roles within organizations are likely to differ. Hall's own method of establishing the extent of bureaucratization on the organizational level was to ask a sample of workers from each part of the organization about their own jobs. The organizational measurement was an aggregate of their replies.

Since we cannot classify roles according to some independent measure of their organizational setting (bureaucratic or not, or the degree of bureaucratization), we must go to the role level and look for evidence that the organization imposes constraints on the worker and how it does so. Both the concept of bureaucracy and the concept of structure are continuous variables involving measurement at the role level

b. Amount of Variability in Roles

Since less bureaucratically structured roles are, by definition, those where the task specification, control of activities, and extent of direct supervisory influence are less than for other roles, it is logical that there will be some relationship between the level of structure and the

location of the position in the organizational hierarchy: the higher the position, the lower the structure (Tautsky, 1970; Hall, 1962). However, this does not mean that there is no variability among jobs located at the same level in the organization. We are interested in the number of constraints which are pre-set for the role occupant: the higher the number, the higher the level of structure, and the less control in the individual role occupant has over his activities because the organization is impinging upon his freedom of behavior.

If we look at available empirical materials on work roles, we see that jobs do, indeed, vary in their characteristics even when located at exactly the same level of the organization. These characteristics often include some that relate to the concept of structure. We also see in these empirical materials that administrative and technological (bureaucratic) factors produce much of this variation.

Walker and Guest (1952) investigated the jobs of auto assembly workers. Although one might expect to find considerable similarity in the jobs, the author shows descriptively that these jobs (and the reactions of the workers to them) are not all uniform. They are all semi-skilled and require very similar skills but, for example, they may be located on or off the line. This affects the pacing of the work and whether the worker can leave without permission, among other things. Although the degree of structure in these jobs is obviously on the whole greater than that of an engineer in the planning department of the same automotive manufacturing concern, there

is still variability.

Blauner also qualitatively enumerates the considerable differences in job content and work process created by different technologies (the assembly line as contrasted with continuous flow process). All the manual jobs he examines are located in similar low-level positions and also require very similar technical capabilities on the part of the workers. Turner and Lawrence (1965) quantitatively measure these same phenomena.

c. Technological and Administrative Sources of Structure: A Review of the Literature

As part of an organizational setting, jobs are highly influenced by its administrative and technological characteristics. These are transmitted to the role through the way its tasks are designed, how it is built into the organizational hierarchy, and its relationship to technological processes. Marx made one of the earliest analyses on the general impact of technology on the worker by examining the worker's relationship to the means of production. Weber virtually began the tradition of analyzing the impact of administrative rationality on the growing ranks of nonmanual workers through their relationship to formal organizations, a line of investigation now extended to the study of manual workers in "industrial bureaucracies" (Gouldner, 1954). Both were concerned with the exercise of power and authority. Marx, writing when the factory system of production was rapidly

expanding, saw people's relationship to the machine and its ownership as the critical determinant of power relationships. Weber, writing at a later point as large scale administrative structures were expanding in the industrial sphere, saw the organization as a key factor in the distribution of authority.

A major focus of Marx's concern with modern industrial man was his relationship with technology--the means of production. With large scale factory production, the technology concentrated production tools in a central location. The means of production required large numbers of workers coming together who worked on tools owned by others rather than owning their own. This brought the worker into a hierarchical relationship with owners of the means of production. The modern concern with relationships within the production unit and the impact of technology is the Marxian tradition. The concern with administrative structures and problems is directly in the Weberian tradition.

These two threads--the relationship of man to technology and to the organization--are found throughout modern thought and research on the nature of work and jobs. Most of the twentieth century concern with people and their jobs has been confined to the fields of industrial sociology, management science, and organizational sociology (the latter cross-cutting the two other areas to some extent). Those who have done work in these fields, however, have been trained in many

disciplines including economics, political science, and engineering. Their approaches to these problems generally fall into two categories: attempts to describe particular jobs, and attempts to research work behavior in organizations. Both of these approaches have a considerable amount to contribute to our understanding of, and our attempts to measure, structure in jobs. In addition, it is well to tie our work into the other contributions made in the area of people and their work.

It should first be pointed out that there is relatively little empirical research on work roles at the non-professional level, and much of what there is is not systematic. Although there are important exceptions, most of the work that has been done either lacks an emphasis on the behavioral aspect of jobs or has focused on work behavior but not the behavioral requirements of specific work roles (e.g., organizational theory and research). Second, low-level jobs, both blue and white collar, need considerably more systematic, theoretically-based research especially relating work behavior to the other life-experiences of the worker. We cannot consider "alienation," "apathy," etc. without relating them specifically to the daily, routine experiences of people on the job. This may be particularly true in the case of understanding the "disadvantaged" and their high rates of job turnover.

There have been relatively few attempts to seriously describe specific non-professional jobs. Most of the focus

on specific low-level work roles has not been in the social sciences but in the field of business management. The need to describe a particular job along one or more dimensions is relevant to determining wages, organizing the work flow, or identifying jobs under union contracts. Such descriptions usually focus on one of four aspects of the job.

Specific jobs are described according to (1) the function they perform in the organization; such descriptions are often brief job classifications particularly if the job is low-level. More detailed, is (2) the description of the technical operations performed by the person on the job. These job specifications are written up, often by engineers if the job is manual, for the purpose of organizing the work flow so that each job is assigned a particular part of the work process. They usually indicate what the contribution to production, the out-put, of the job should be, but do not always describe exactly what the worker does.

Sometimes these technical specifications are quite detailed. More often, however, they are not. It has been noted that some companies do not like to keep detailed descriptions of jobs because they become the property of the union. The union can utilize such descriptions in bargaining. This tends to hamper management when they try to reorganize the work process or introduce new techniques. The impact of this and other factors is that businesses generally have no reason to describe in written detail what people actually do on their job and sometimes even have incentives not to do so.

Of course even detailed descriptions of the technical operations do not necessarily tell us what people actually do while on the job (a lesson well learned from the Human Relations School).

Specific jobs have also been described according to two other aspects of work roles: (3) their rank in the organization, and (4) their position in a career ladder. Jobs are described and classified formally according to the status of the job both in the employing firm and in the world of work at large--what contribution it makes relative to other jobs. Generally this is done in order to assign it a pay rank, "job evaluation" in the terminology of management. (Among many others, Patton, Littlefield and Self, 1964; and Lanham, 1963.) Jobs are also described according to the career opportunity available to the worker, for example, whether it is an apprenticeship or entry position with the promotion ladder through other jobs specified.

Although it may be meaningful for the business organization, and to some extent for the worker, to have a job described in these four highly specific ways, it does not tell anyone, including the worker, much about what the job will be like on a day to day basis. For this reason, such descriptions are of little help to us in understanding how jobs are structured. The major exception to this statement is the description of technical operations. Knowing in detail the task activities of the worker helps us begin to specify some of the ways tasks

have built-in restrictions on behavior.

The major scale attempt to empirically describe specific jobs and classify them according to these descriptions is the classification of jobs in Volume II of the Dictionary of Occupational Titles or "DOT" (U.S. Department of Labor, 1965). The two volumes were developed by the U.S. Department of Labor. Since this attempt to describe a vast number of jobs was designed in part to be an applied tool (particularly the classification schema in Volume II), it could not rely only on formal descriptions and be as narrow in scope as the common types of descriptions just presented. It could also not be as diffuse and detailed as most of the social science attempts to describe work behavior which we shall discuss below.

The focus of the "occupational classification" of the DOT is on rating specific jobs along several aspects of their task activities and then classifying them. The ratings are based on actual observation of a sample of the jobs in each category. The unique aspect of the DOT classification and related job ratings is that it combines a focus on specific jobs, covers a large number of jobs, and compares them through rating on a large number of dimensions.

The characteristics of jobs that are central to the classification schema are those related to its task activities. The development of the "Theory of Work Performed" used as the basis of this measurement has been discussed in some detail elsewhere (Fine and Heinz, 1958). Work is measured according to what the worker actually does--whether he works with THINGS,

DATA, or PEOPLE--and rated on a scale according to the degree of complexity of the actual function carried out. Based on this task dimension, jobs are given a three digit score then grouped accordingly under the appropriate substantive area of work such as ART or CLERICAL WORK.

If we look closely at the classification of jobs by Things, Data, and People, we find that it is really too broad for the purposes of identifying sources of "structure." Although the classification procedure began with the specific activities of the worker on that job, by the time they were rated and classified, the classification had become too generalized for our purposes. In order to use these classifications, one would have to make the assumption that the less complex the activities, the more the structure, and then rank specific jobs accordingly. That assumption may be proven empirically accurate, but it cannot be an assumption for our use. The ratings do not permit us, for example, to distinguish jobs that rank quite similarly on Things, Data, People, but are quite different in the routine activities engaged in on a day to day basis.

Somewhat closer to our notion of structure is the DOT description of jobs according to "worker traits."* In these ratings are several characteristics of jobs that are related to our notion of structure. Each DOT job title is rated

*We analyze some of our own data in relation to these DOT worker traits in Section VII of this report.

according to seven dimensions of jobs that are considered important in job selection. Because these job ratings are intended for use primarily in job counseling and placement, the ratings are presented as individual scores on personnel tests, for example, the GED, appropriate for performance on this job.

Although they are labelled as "worker traits" and given names such as: "Interests," "Temperaments," etc., they are based on evaluations of job characteristics.

It is under "Interests" and "Temperaments" that the closest approximation of our "structure" dimension appears. "Interest" really refers to the general type of activity engaged in on the job and "temperament," to the type of job situations "to which workers must adjust." For the most part, it is structure in the task area which is touched on by these ratings. For example, the job is rated according to whether it requires positive responses by workers to "situations involving a preference for activities of a routine, concrete, organized nature." Presumably any job with this rating (#3 on Interests) would be found more structured by an independent measure of structure than would a job rated "situations involving a preference for activities concerning people and communication of ideas." (#6 Interests). Under the "Temperaments" rating, we find tasks "to which individuals must adjust" identified, for example, as "situations involving repetitive or short cycle operations carried out according to set procedures

or sequences."

Although it is primarily structure in task activities that is most clearly identified, there is one rating of structure in the area of supervisory relations. Temperaments should be matched, it is suggested, with "situations involving doing things only under specific instructions, allowing little or no room for independent action or judgment in working out job problems." With this exception, the DOT descriptions ignore worker trait requirements related to the hierarchical aspect of jobs. They also ignore requirements related to the extent of conduct regulation demanded by the job. Perhaps acceptance of these forms of discipline is just assumed to be a given in our highly bureaucratized society.

Although the DOT descriptions of jobs is heavily oriented toward their task components, it recognizes that other aspects of the job are also important. For example, it includes working conditions, physical demands, and somewhat broader descriptions of the task situation than is generally found in the more typical descriptions of specific jobs in terms of their technical operations, rank, title, etc. The dimensions used to describe jobs in the DOT clearly recognize, though inadequately cover, the bureaucratic--both technical and administrative--aspects of job design.

The second contrasting tradition in the analysis of bureaucratic aspects of work roles represents a clearly behavioral approach. Since our attempt to identify and eventually measure the ways jobs are structured has a behavioral focus,

much of the following research is of considerable importance. Although each of these studies of work and work behavior provides many clues to sources of structure, none has considered work roles specifically along this analytic dimension.

The so-called "classical" approaches to work behavior are two. They reflect the two themes noted above--concern with the effect of technology on work behavior and with the effect of organizational or administrative structure. These approaches are, to some extent, primarily theories of organization. Rather than approaches to job description, they are approaches to how work should be organized so that the goals of the organization are best fulfilled. Since they are proposals that have been extensively implemented, they provide useful clues to the actual design of jobs and work behavior.

"Scientific management" had its birth with Taylor (1947), Gilbreth (1914), and Gantt (1919). The focus was to organize the work so that it was broken down into simple units and the specific activities of each unit precisely defined. According to Thompson (1961) this trend to the microdivision of work was tied to modern industrial needs: the economic need to keep expensive machines operating full time; and the need to reduce the organization's dependence upon skilled labor. "The individual division of labor was not the outgrowth of a social process. It was and is a planned condition imposed upon the organization by those in authority" (1961, pp. 56-7).

The primary impact of this orientation to work behavior on the design of jobs was (and is) to increase job structure.

It encourages detailed specification of what work is to be done by each work role. It advises narrowing the definition of each task by extensive subdivision of the work unit and also the detailed specification of precisely how each task is to be done. The contemporary literature on "work design" (for example: Nadler, 1963; Davis and Canter, 1955; Davis and Weling, 1960; Davis, 1962) indicates the extent to which the basic principles of Taylorism still represent an important influence on the design of tasks. The task organization of a job is an important aspect of work roles to be investigated for the extent to which it structures the job.

Decisions on how tasks will be organized, including their relationship to technology, are generally made at high levels of management and are organization-wide in their impact. March and Simon (1958) refer to "performance programs" by which they mean the complex and organized set of responses or activities that are prescribed by the organization for any work role in that organization. These performance programs differ, according to March and Simon, in the degree to which the activities called into play require search, problem-solving, or choice behavior by workers. They note that many performance programs in organizations call for little, if any, of this discretionary activity at all "...account for a very large part of the behavior of all persons, and for almost all of the behavior of persons in relatively routine positions. Most behavior, and particularly most behavior in organizations, is

governed by performance programs" (1958, pp. 141-2).

Likert describes this highly structured design of jobs as the result of a particular, very prevalent style of management--the "job organization" approach under which,

Jobs are well organized, waste motion and inefficient activities are at a minimum, standards have been set on a maximum of different jobs, tight budgets and controls are the existing pattern. This system of management relies primarily on the economic motives of buying a man's time and the telling him precisely what to do, how to do it, and at what level to produce. We shall call this the "job-organization" system. (1961, p. 82)

Thus, the classical scientific management approach to work behavior in organizations is not simply a theory of organizations, but a very important influence on how jobs are actually designed. The Taylor tradition of methods to maximize production efficiency has created considerable structure in a large number of manual (and increasingly non-manual) jobs. It is a theory fully put into action. Interestingly there are considerable furor over the introduction of such task design in the early part of this century. It was attacked by trade-unions and even resulted in a set of Congressional hearings (Gros, 1964, p. 149).

The second of the so-called "classical" approaches to work behavior considers the administrative design of jobs. Administrative science really began with Weber's description of bureaucratic administration. Weber's model of organizing work, as Taylor's, is mechanistic. This highly rationalistic

approach to work administration has a strong, almost singular, emphasis on the formal allocation of duties to hierarchically arranged positions and on the formal set of regulations governing these positions. Once again, the theoretical principles of organization set out by Weber and others have had a strong influence on the actual design of work roles. Probably the clearest example of this is the monistic ideal of control whereby roles are organized hierarchically, with each subordinate position being influenced by one and only one legitimate superior position.

Several writers, including William F. Whyte (1961), suggest that there has not been sufficient research on the impact of various formal administrative structures on the attitudes and behavior of workers. Certainly one aspect of the design of jobs which is a direct result of the bureaucratic model - the imposition of many rules and regulations - has received little attention. Although in almost all broad descriptions of work situations (Walker and Guest, 1952; Rice, 1958; Walker, 1950; Purcell, 1960; etc.) rules are mentioned and occasionally related to workers' reactions to their jobs, there has been nothing in the way of systematic investigation of workers' reactions to the rules and regulations that govern their activities on the job. The one partial exception is Gouldner's Industrial Bureaucracy (1954); but the emphasis in his investigation is somewhat different. He focuses on the issue of legitimacy, that is, the effect

on role performance of enforcing rules when workers see such acts as an illegitimate exercise of power. A number of other writers, particularly Thompson (1961), have focused some theoretical attention on the function of rules in organizations (e.g., as a method of controlling behavior when there is a conflict of interests between groups within the organization), but little empirical research has been undertaken. Nevertheless, it hardly can be ignored in any attempt to locate specific sources of structure in particular work roles since this aspect of administrative organization has been a crucial theoretical and applied concern in the actual design of work roles.

However much both of these classical approaches to the theory (and actual design) of work behavior in organizations have contributed to our search for sources of structure in work roles, they tend to ignore less formal aspects of work behavior. Since the late 1920's the human relations tradition of research on work behavior has been investigating informal behavior in organizations. This shift to a heavy interest with inter-personal interaction grew out of two experiences with research on formal organizations: first, the realization that Taylor's approach was limited in its actual contribution to creating efficient and productive work designs; and second, actual field observation carried out in organizations (e.g., the famous Hawthorne researches) indicated considerable variation in work behavior among jobs with the same formal design. Much of the human relations approach

to work behavior has been oriented toward understanding how informal interaction among workers (and to some extent between workers and supervisors) affects the behavior of workers, especially their level of productivity.

The contribution of this research for our purposes is limited because much of it relates to non-work behavior (peer relations). Except in one respect (its considerable contribution to an understanding of supervisor-subordinate relationships which we shall discuss below), this research does not identify any additional sources of structure. It does, however, make one key contribution to our investigation by emphasizing the considerable extent to which the formal and the actual aspects of the work role may vary. If formal "performance programs," task allocations and procedural specifications, are not actually followed by the worker, then his area of discretion has been increased, control from above decreased, and the structure of his job reduced.

While the human relations school has emphasized informal interaction on the job, another group of researchers has investigated "non-formal" activities, i.e., work-related behaviors that are not prescribed in the formal organizational blueprints. This group represents a polyglot of empirical and theoretical concerns. They have been unenthusiastically labelled "structuralists" by at least one observer (Tausky, 1970, Ch. 1).

The empirical studies of work that may be generally classified in this group are heavily descriptive, influenced

considerably by the action-research projects of the Tavistock Institute of London* and the Technology Project of the Institute of Human Relations at Yale.**

Both these traditions have focused on the "whole task," the "immediate job," or the complete "socio-technical system" in which the work role is located (Turner and Lawrence, 1965). Not only does this type of research contribute to our knowledge of the interrelated effects of technological, administrative, and interactional aspects of work roles, but it also emphasizes investigating what actually is done on the job (non-formal behavior) rather than considering only formal or informal aspects of behavior.

d. Bureaucratic Characteristics of "Structured" Work Roles:

Now that we have reviewed some of the theoretical and empirical materials on the impact of the organizational setting on the design of work roles, we shall use these materials as the basis of defining those specific characteristics of a job which identify it as highly structured. Since these characteristics relate to structure imposed on the work role by its

*Trist and Bamforth, 1951; Trist and others, 1963; Hill and Trist, 1962; Rice, 1958; Rice, 1963.

**Guest, 1955a, 1955b; Jasinski, 1956; Turner, 1955, 1957; Walker and Guest, 1952; Walker, Guest, Turner, 1956; Whyte, 1948; Walker, 1950; Turner and Miclette, 1962.

bureaucratic setting, the source of structure is primarily, as we have just discussed, the technological and administrative design of the job.

Referring back to Figure I-A, the three boxes across the top half of the chart may be filled in by identifying the ways in which the organizational setting structures the worker's specific activities, supervisory relations, and his general conduct. Each of the cells will be filled with one or more characteristics of work roles (for example, Task Fragmentation) representing the highly structured end of a continuum. Recall that the concept of structure as an analytic dimension of roles are one end of a continuum ranging from highly "structured" to "unstructured." On the basis of the characteristics we shall enumerate, we shall later operationalize the concept structure by generating indicators of each role attribute.

From the above literature and research we have identified six analytic characteristics of work roles that identify bureaucratically structured jobs. Such roles are characterized in the task area by (1) inelastic task boundaries; (2) fragmented task activities; (3) many rules of task performance; and (4) a promotional ladder. These are characteristics located in Cell #1 of Figure I-A. In the area of supervisory relations (Cell #2), highly structured roles are characterized by (5) direct supervision. Finally, the general conduct component of such roles is characterized by (6) many rules governing general conduct on the jobs (Cell #3).

(1) Inelastic Task Boundaries

A work role is bureaucratically structured if the duties assigned that role are strictly defined and not at the discretion of the role occupant. Thus, the worker cannot negotiate, determine, or manipulate the duties for which he is responsible. In his description of bureaucratic organization, Weber refers to duties as allocated to "offices," which are "clearly defined spheres of competence in the legal sense" (Weber, 1958). Work roles, therefore, have boundaries which are some times quite inelastic. In the area of organizing the flow of work, either manual or non-manual, the "Taylorist" perspective stresses subdividing the work and having strict rules concerning the task responsibility of each worker. Often these formal definitions of the task boundaries will be found in writing, either stating the function of the particular job (which is relevant to administration), or stating the technical operation to be performed (relevant to the engineers). However, we are not only concerned with the formal definition of the task boundaries, but also with the actual tasks performed. Hence we must consider whether or not the role occupant has greater flexibility in determining his work sphere than is evident on the organizational chart. The so-called "structuralist" researchers who actually observe jobs have reminded us to include this non-formal aspect of task organization.

(2) Fragmented Task Activities

If the work role involves tasks which are narrowly defined or fragmented, rather than encompassing many or all aspects of a complete work unit, the role is bureaucratically structured. Both Weberian and the Taylorist perspectives lead to this mechanistic work design. Weber described bureaucratic organization as based on advanced division of labor, specialization, and expertise in the area of task. When such principles of administration are extended, as in Likert's "job-organization" system, a given unit of work will be substantially broken down into many narrow sub-divisions. Under this system, each worker engages in only a small segment of the total unit of work. The assumption that work would be so divided was basic to Taylor's approach to designing each worker's operations.

This aspect of industrial jobs was of primary concern to Marx in his writing about the alienation of modern man. Fragmented jobs require individuals to delay or postpone personal satisfaction since the work itself has little or no meaning or purpose for the worker himself. He then becomes alienated from the work and from himself as well. Work can become only an intermediary goal--an instrument for obtaining the means to achieve other goals--rather than an end in itself.

(3) Rules of Task Performance

The work role is highly structured if the task activities of the worker are highly restricted by rules. These rules are

related to the way the work has been "programmed" (March and Simon, 1958). Tasks are structured if the techniques the worker is supposed to use, the materials, and the work operations are determined for him. The extent to which his pace and movements, as well as the quality and quantity of his work are also formally determined for him. The extent to which his pace and movements, as well as the quality and quantity of his work are also formally determined affects the degree of structure in the task. The "job enlargement" (or enrichment) approach to altering work design indicates various ways in which jobs can be made less structured in this way - often without altering other characteristics of the job, such as the supervisory hierarchy or the task boundaries (Ford, 1969; Bibby, 1955; Elliott, 1953; Fogarty, 1956; Walker, 1950).

(4) Promotional Ladder

Weber refers to the career aspect of bureaucracy. Roles are built into career lines. The job is bureaucratically structured to the extent that career or promotion is possible, conforming in order to advance out of the job is a possible alternative to leaving it altogether.*

(5) Direct Supervision

The work role is bureaucratically structured if it is

*We discuss below the impact of work role design on determining the modes of non-adaptation available to the worker.

subject to direct, personal supervision. According to Weber, a hierarchy of supervision is a central component of bureaucratic administration. Monistic, or direct supervision is a key source of structure as we have suggested above. This form of supervision is generally seen as the most efficient method of coordinating and controlling the sub-divided tasks from the top where organizational controls are set. The lines of communication and influence are clear, presumably to allow for minimal confusion and maximum responsibility. These hierarchical authority relationships may be contrasted with less centralized systems (e.g., Stinchcombe, 1959, on "craft administration"). More indirect forms of supervision are found in work settings where individuals do not have a single, overall supervisor, but rather consult on different task-related matters with different superiors--often staff personnel who are experts in the area of concern (see Blauner, 1964, on oil refinery workers). The more indirect the supervision, the larger the number of superiors with whom the worker is able to consult and the greater his discretion as to when to call for assistance and whom to call upon.

It is quite probable that highly visible insignia of rank within an organization are indicators of the extent of structure in the supervisory relations. Formal, visible rank distinctions are likely to indicate greater structure in roles than do more informal or invisible distinctions in rank. For example, the insignia and uniforms in the military indicate

a far more formalized rank system than do informal indicators such as a doctor's stethoscope, or invisible indicators such as professorial rank. Such factors are probably more than just indicators of the degree of formality and rigidity in hierarchical distinctions. They reinforce structure as well by assuring that rank is always activated in any interaction (note the saluting behavior in the army, even of superior's cars, as compared with behavior on the campus).

As March and Simon have suggested (1958, Ch. 4), in joining an organization, the employee accepts an authority relationship which is represented most immediately by the supervisory network in which he is located (direct or indirect in organization). The employee must then accept the orders, the supervisory network is a basic means by which his behavior is controlled.

(6) Rules of General Conduct

The "legal framework" of the organization (Whyte, 1961, Ch. 3) is one of the key regulatory aspects of the organizational setting in which the role is located. We have already suggested that the rules and regulations which govern the general behavior of the worker while "on the job" are aspects of his job that have been little researched. A role is bureaucratically structured if there are numerous rules and regulations governing those aspects of a worker's behavior on the job which are unrelated to immediate task performance. In complex organizations rules prescribe many areas of a role

occupant's conduct: when he must come to work and leave, his dress, deportment, rest breaks, etc.

Weber's inclusion of this aspect of bureaucracies suggests that complex organizations require many aspects of behavior to be prescribed to assure coordination of the whole organization. It is this aspect of bureaucratic organizations that novelists such as J. P. Marquand, other commentators on the "organized" society and the "organization man" have criticized because it tends to spread beyond the work world and into family and recreational life. Although this encroachment would be an interesting (and perhaps for some jobs, crucial) aspect of structure, it is difficult to measure. However, we can measure the extent to which there are formal conduct rules and regulations that are universal, applied to any occupant of the role. Such formal regulations structure and constrain the role behavior of the worker in many areas.

To summarize, in this section, we have looked at the various traditions of conceptualizing, describing, and researching jobs and work behavior, and from these traditions drawn suggestions as to where work roles will be structured by the organizational setting in which they are located. We have called this bureaucratic structure, after both the theoretical and the perjorative concept of "bureaucracy" as a method of administering large scale organizations. We have focused on the role level, asking where such organizations, administratively and technologically, make demands that require the role

occupant to limit and discipline his behavior in accordance with prescriptions established by the organization.

Now let us turn to the second major source of structure we have identified: ROLE MANAGEMENT. It is particularly in the human relations tradition and in organizational theory that we find this aspect of work roles raised as an important consideration in understanding workers' attitudinal and behavioral responses to their jobs. Once again, however, little empirical research has been undertaken on specific work roles.

3. The Tightness Sub-Dimension of Structure: Role Management

If we look at workers actually on the job, we find that even in some highly bureaucratic structured jobs, rules are not always enforced, and supervisors permit workers to perform at a marginal level. We also find jobs that appear relatively low in bureaucratic structure but where the supervisor insists on enforcing all regulations and continually checks on the worker's performance. He may also impose his own work techniques or patterns on the worker, thus heavily "programming" that worker's activities far beyond the formal task definition made by the organization. It is also quite evident that two different supervisors within the same organizational unit may influence the same job in quite different ways. In recognition that this is an intrinsic phenomenon in all organizations, we suggest that the style of role management is a crucial factor in the structure of work roles.

From the human relations tradition we find discussions of different styles of role monitoring or managing--the close versus the general style of supervision being the most prevalent distinction. In organizational theory we encounter discussions of the variety of ways organizations influence supervisory roles and the conditions under which organizations choose different styles of influence. This concern advances beyond the Weberian approach to complex organizations where bureaucracy is seen as formal, rational administration, antithetical to autocratic or authoritarian behavior. Under the older conception, rational rules for behavior were presumed to assure that rational, bureaucratic behavior would result. Prior to the advent of "scientific" administration, foremen had held considerable, and often arbitrary, power over their men. Scientific management was supposed to reduce authoritarianism and spread rational behavior to the floor of the shop. It was often assumed to have accomplished this, until, however, close observers and theorists of organization went into the field and examined actual interaction and behavior. This led to a considerably altered view of work organization. The supervisor is still a crucial, often authoritarian factor. For this reason, we have identified "Role Management" as the second major dimension along which the amount of structure in a work role may vary. It is a sub-dimension of structure that, conceptually at least, may vary independently of the BUREAUCRATIC sub-dimension.

a. Role Management Sources of Structure in Organizations: A Review of the Literature

The major contribution of modern organizational theories (often post-"human relations" theories) is that the organizational structure of bureaucracy permits many different styles of supervision, including authoritarian styles, and that some bureaucratic organizations actually encourage this type of supervisory behavior. Hence, authoritarian styles of interaction are not incompatible with bureaucratic organization.

Thompson (1961) coins a term for this pattern: "bureaupathic behavior." Autocratic role management, Thompson suggests, is personal and ideosyncratic, but also organizationally induced; it is created by both personality differences among individuals in supervisory positions and by tensions generated in the normal operations of bureaucratic organizations (p. 23). "Bureaupathic behavior" is not, therefore, as the term might suggest, abnormal or unusual behavior in organizations. Bureaucratic organizations are hierarchical structures and their superordinate roles, as culturally defined, are autocratic and authoritarian, not democratic or egalitarian (pp. 64-5). The supervisor's role is characterized by rights, including nearly absolute veto power over subordinates, and the subordinate's role is characterized by duty. The roles themselves, therefore, create considerable opportunity for constraint, restriction, demand for discipline, and so forth on the part of any supervisor (p. 70).

Thompson's analysis of the built-in potential for autocratic or authoritarian behavior by supervisors and his recognition that the actual behavior associated with superordinate positions will be modified by personality, is shared by most modern theorists of organizations. All have relied on the substantial accumulation of empirical, descriptive materials from field work in organizations to develop more realistic theories of how organizations actually work, and how observable behavior in organizations is produced. As others also point out, Thompson suggests there are two patterns of behavior in modern organizations (pp. 82-3). The first and oldest pattern is represented by relationships which are ill-defined, only vaguely limited, diffuse and particularistic. The supervisor-supervisee relationship contains much of this type of behavior. The pattern is found in all work relationships where power is unequal and has characterized worker relationships long before the growth of rational, bureaucratic forms of administration and scientific management. The second pattern is represented by carefully defined and limited relationships which, for the most part, are governed by the universalism of technology and scientific administration. These patterns are new, first identified by Weber and others, then reinforced by scientific management. some extent interest in such behavior eclipsed concern with the older forms of behavior, largely because it was assumed that universalistic criteria would actually replace the earlier forms of interaction. As suggested

above, field research in modern organizations encouraged theorists to recognize this is not the case.

March and Simon (1958, Ch. 3) refer to supervisory behavior as characterized by various styles. These styles range along two continua: (1) where the decision-making process is characterized by free and equal discussion with subordinates to an autocratic decision pattern by the supervisor; and (2) where supervisory decisions make highly specific demands of the subordinate ("close") to where they are more general and less detailed (p. 55). According to March and Simon, variations in supervisory practices are partly a consequence of the supervisor's degree of authoritarianism.

Gouldner's (1954) field work in a gypsum factory caused him to challenge Weber's descriptions of bureaucracy on a number of dimensions, one of which was Weber's assumption that bureaucratic rules and their enforcement were, by definition, legitimate. The contribution Gouldner makes to our analysis of sources of structures in work roles is his discussion of the variability of rule enforcement in an organization.*

Gouldner shows empirically that rules and regulations may be minimally enforced at one time and at another they are maximally enforced. He shows that the degree of enforcement has considerable effect on the behavior of workers in the organization. We suggest that the degree of structure in a role is

*Caplow (1964, p. 83) also points out that organizational rules vary in terms of the probability of their enforcement from unenforceable to self-enforcing.

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related to the degree of rule enforcement. This issue is entirely independent of Gouldner's central issue of legitimacy. Rules may be perceived as entirely legitimate by the worker, but he may still have considerable difficulty regulating his behavior in accordance with them.

Empirically, therefore, rule enforcement may be considered a variable. According to Gouldner and others (e.g., Thompson, 1961; March and Simon, 1958), it is at least partially related to decisions made at two different levels of organization. March and Simon suggest that Gouldner's study indicates that demands for increased control over work behavior coming down from the top of an organization can lead to increased rule enforcement and closeness of supervision by the first level supervisor. However, they also suggest that this tight role management does not need to be the response of the supervisor. Whether or not authoritarian behavior results is related to the personality of the supervisor. Both personality and organizational variables are important in determining the type of role management. Thompson (1961, p. 93) suggests that authoritarianism ("bureaucrathic" behavior) is inherent in supervisory hierarchies. Considerable anxiety can be created in the supervisor when heavy demands are made on him for changed behavior in his workers. The rights built into his role make excessive formalism, over-strict compliance with rules, and close supervision an extremely available response to such pressure (Ch. 5). One might say that an increase in the "tightness" with which the supervisor's

own role as someone else's subordinate is managed encourages an increase in the "tightness" with which he manages his subordinates.

Whyte (1961, p. 89) notes that personality is a key factor in how the supervisor carries out his tasks. For example, he relates the story of a new supervisor who chooses to search his men's lockers for stolen production items in an attempt to "establish greater control." This action was regarded as a violation by the men and created considerable agitation (pp. 164-6). It also considerably increased the pressure on workers to conform to the rules.

Whyte also points out (p. 168) that the physical organization of the work setting can make a difference in supervisory patterns. Some physical settings can make it extremely difficult for higher level management to control what goes on on the floor of the shop or in other places where low-level workers are located. The organization finds it difficult to control either the workers or their supervisors from the top. In such situations, management is likely to set rigorous standards and create additional regulations for low-level workers in an attempt to control their behavior from a distance; this also increases the bureaucratic structure of low-level jobs. In addition, however, distance from higher management can also mean supervisors have considerable leeway in how tightly they manage these same workers. If the production results are acceptable to management, there is no economic reason for them to intervene whatever the supervisory style.

According to Likert (1961, pp. 77-8), among workers in highly repetitive jobs, there is little or no relationship between their productivity and their attitudes toward many aspects of their work, including supervision. Normally, therefore, there would be no economic reason for management to interfere with an authoritarian superior.* This is not necessarily the case with more varied (and thus, less structured jobs) where productivity is likely to be related to worker attitudes toward supervision. Here tight role management by a supervisor might be challenged by management if it interfered with productivity.

Rules and their Enforcement

Part of tight role management is the enforcement of rules and regulations. In our consideration of the sources of bureaucratic structure, we suggest that people's behavior is influenced by the sheer existence of rules and expectations, whether or not they are enforced. As Caplow has noted, routine "enforcement" consists of maintaining some level of partial compliance (1964, p. 24), some of which is voluntary requiring no external punishment or overt enforcement for it to be maintained. This is possible because some rules are internalized. Rules can also be effective without overt enforcement

*Influenced by the human relations school and by the empirical results of field work in organizations, almost all writers on organizations discuss the wide range of role management styles among supervisors, particularly along the dimension of close or authoritarian versus general or loose supervision. See, for example, Likert's "job-centered" versus "employee-centered" supervision (1961, pp. 6ff); and Gross' "authoritarians," "laissez-faires," and "democrats," (1964, p. 401).

when people obey rules because they may be activated. Simply reminding people continually that rules and expectations exist can generate enough anxiety to insure compliance even when there is no overt enforcement. For example, in one social work agency, a time clock for professional workers was introduced. Although it was known (and it was actually the case) that the recordings were not used in evaluating workers (the clocked hours were not even recorded in the worker's file), the effects of punching in and out were still felt by the staff. Staff began to check their own comings and goings and reported that they were far more conscious of the total number of hours they put in each week, even though they never saw the actual figures. Although the data from the time clock never had to be used to evaluate or overtly regulate the employee behavior, it would be inaccurate to say that there was no additional discipline, or greater demand upon them. This is counterfactual given the self-reports of employees on their reaction to the time clock. The effect, however, would have been considerably greater, and the degree of structure in their work roles increased, if it had been used in role management by a supervisor.

It is clear that the rules themselves (even when not rigorously enforced) do affect the behavior of role occupants. So also does the level of overt enforcement of these rules. Part of the structure characterizing a particular work role is thus derived from the interaction between the formal level

(the rules built-into the job) and the behavioral level (what is actually enforced). The most powerful degree of structure is generated when the formal and the behavior levels are high as seen dramatically in Figure I-B.

FIGURE I-B

Structure from Rules and Regulations

Extent of Formal Rules (Bureaucratic)		
Extent of Rule Enforcement (Role Management)	HIGH	LOW
HIGH	highly structured	moderately structured by role management
LOW	moderately structured by organizational setting	minimally structured

b. Characteristics of Structured Roles Resulting from Tight Role Management

Returning to our earlier Figure I-A, let us fill in the lower half of the figure with the characteristics of work roles that define tight ("authoritarian," etc.) role management.

(1) Regulation of Task Performance (Enforcement of Procedure)

The work role is tightly structured (as contrasted with

loosely structured) if the rules governing the worker's task activities are strictly enforced and in any other way informally regulated. Although the job may be highly structured in bureaucratic ways, the worker's actual behavior may be quite different from that which is "programmed" or prescribed. If this is the case, we shall call the work role (relatively) loose rather than tightly structured. On the other hand, the reverse situation could pertain. A relatively non-bureaucratically structured role could be made much more highly structured because of the activities of the supervisor in managing or monitoring the worker's task activities.

(2) Close Supervision

Supervision is tight if it involves the close administration of the worker's activities while on the job. We refer to how often the worker is checked, the visibility of the task performance to the supervisor, and the extent to which sanctions are imposed for error or violation of supervisory directions. This is independent of how the supervisory relations are formally organized. For example, there may be many rules, and a highly defined structure of duties, as well as a single supervisor for a particular apprentice role (bureaucratic characteristics), but the journeyman may leave the apprentice alone to struggle with his work and master it himself with only occasional direction. This would be loose supervision. On the other hand, the apprentice role could be located in a very

non-bureaucratic setting, not governed by many formal rules, not strictly defined as to duties or even assigned a single journeyman as supervisor; but the apprentice may be very closely or tightly supervised and regulated by one or more journeymen.

(3) Regulation of General Conduct (Enforcement of Rules)

Regulation of the worker's general conduct on the job will be considered tight if rules covering many aspects of his behavior are inflexible in their interpretation by the worker, are enforced, and violations are severely sanctioned. For the role to be tightly structured in this area, the rules do not need to be universally applied, and they may be arbitrarily administered by the supervisor.

The tightness and bureaucratic characteristics of structured work roles are summarized in Figure I-C.

c. Work Role Design and Modes of Nonadaptation

Let us return for a moment to the issue raised in the Introduction concerning the congruence or incongruence between workers and the requirements of their jobs. Situations of congruence should result in the worker's easy adaptation to job requirements; situations of incongruence should lead to one of many possible non-adaptive behavioral responses. There will be some amount and type of nonadaptation. If we utilize the Mertonian paradigm (Merton, 1957, Ch. 4), some types of

FIGURE I-C
Characteristics of Structured Work Roles

COMPONENTS OF WORK ROLES			
SOURCE OF DEMAND OR DISCIPLINE	Task Specific Activities	Supervisory Relations	General Conduct
	1. Inelastic Role Boundaries 2. Fragmented Task Activities 3. Rules of Task Performance 4. Promotional Ladder	5. Direct Supervision	6. Rules of General Conduct
	7. Regulation of Task Performance (Enforcement of Rules	8. Close Supervision	9. Regulation of General Conduct (Enforcement of Rules)

nonadaptation may be identified as innovation, ritualism, retreatism, or rebellion.

The point to be made here is that the way the work role is designed and managed (including the type of structure that characterizes it) will influence the type of nonconformity the role occupant can engage in and still remain within the work role. This is of considerable importance to our discussion of the disadvantaged worker because it is crucial that he retain his job--not choose the "retreatist" mode of nonadaptation. The reasons are obvious. There are few good employment options available to him and dropping out perpetuates failure. Therefore, the way the job is designed and managed, particularly the degree of flexibility it permits for some form of nonadaptation and yet remain on the job, will to some extent determine the retention rate of the job.*

There is considerable research literature on the relationship between various job characteristics (including several which crosscut our notion of structure) and workers' absenteeism and turnover. Generally it appears that the more

*Among other data that could be cited here is a study by Frank Friedlander and Stuart Greenberg (1970). The authors conclude that traditional factors such as the demographic/biographic background of the Hard-Core Unemployed person, his previous work history, education, family structure, motivation toward work, motivation to avoid work, self-image, and several others have little bearing on whether he performs well on the job and how long he stays. The only factor they can identify that does affect these two critical behaviors is the supportiveness of the organizational climate and especially his perception of his supervisor's supportiveness. This notion of "supportiveness" is clearly related to the role management style of the supervisor and of the organization's management as a whole.

routine, programmed, fragmented, and closely supervised the job, the higher the turnover and absenteeism. Such jobs would be found quite high on the measures of structure. They also permit few modes of nonadaptation for those workers that are not highly tolerant of structured work settings. Absenteeism, being fired or quitting are virtually the only responses built into the organization and supervision of the job. For example, Caplow (1964, pp. 197ff) suggests that the role of Coast Guard Academy cadet (which is clearly highly bureaucratic and tightly managed) is so controlled that innovation or ritualism as modes of non-adaptation are extremely difficult to accomplish; the legal code makes rebellion dangerous according to Caplow, so therefore, the only mode of nonadaptation really permitted is retreatism. Two-thirds of the cadets drop out of this presumably highly structured role before completing the course.

II. INSTRUMENT DEVELOPMENT

A. Operationalizing the Tolerance for Structure Construct

1. Test Blueprint

In the tolerance for bureaucratic structure instrument, questions developed can be considered to represent four areas which are theoretically distinct but which should be related. The four areas include: attitude toward rules and regulations; attitude toward authority; orientation toward tasks; and orientation toward delaying gratification.

Attitude toward rules and regulations is conceived of as a continuum. At the "neutral" or bureaucratic end are individuals who are predisposed to follow many rules and regulations quite willingly while on the job. At the opposite extreme, are individuals who express discomfort at the thought of having their work behavior governed by rules and regulations. Implied in this construct is the assumption that the individual who is predisposed toward following rules does so without feelings of anxiety or hostility.

Attitude toward authority is a related construct involving an individual's predisposition to accept the legitimacy of the hierarchical structure of work, thus the legitimacy of supervision. Workers high in this area are characterized by an easy acceptance of any degree of reasonable supervision and direction on the job. At the opposite

end of the continuum are those who resent supervision no matter how reasonable.

Orientation toward task is concerned with the routine performance of a set of activities which are limited in scope and highly structured and perhaps repetitious. Associated with this orientation is the tolerance for working on tasks in which the worker cannot appreciate the contribution he makes to the final product of his labor. Those who can perform such tasks without reported discomfort are placed at the bureaucratic end of the continuum. At the other end we find individuals who dislike or report other discomfort when their work tasks have these characteristics.

The fourth area included in the scale,--is the individual's orientation toward delaying gratification. This differs somewhat from the three areas described above which relate directly to concrete aspects of work roles. This last area taps a more general set of orientations which conceptually underlie the entire personality construct we seek to measure. The notion of "neutrality" suggests that an individual will be able to delay his own gratification if required to do so by the needs of the organization. Therefore, questions designed to measure this dimension of personality outside the specific context of work attitudes are included.

Figure II-A presents the preliminary blueprint which was used to guide item writing. Rules and regulations and

authority were considered the most important aspects of the construct while task and delay of gratification were somewhat less central.

2. Item Development

After preparing a careful operational definition of the construct, an initial pool of 500 potential items was generated. These items were designed to be read by persons with little formal education. A careful editing and content analysis reduced the number of items which was used in the preliminary field tryout.

In order to make the instrument as simple to respond to as possible the items were written in such a way that the response to each of the questions would be similar. In addition the items were carefully screened to remove those that might be offensive to any respondents. This preliminary form contained 106 items. It was administered to a group of volunteers in a New York City Job Training Program. All of the trainees read English. This preliminary tryout was attempted in order to clarify any difficulties in the items. The respondents were given specific instructions to mark any question they had difficulty understanding. In addition they were asked to indicate any question that they felt they were reluctant to answer. The trainees in this program averaged nine years of formal education.

Based upon this initial set of items a second version

of the instrument was constructed. For the most part the items in the second version were drawn from the items on the initial form. Some of the items were modified to improve their clarity and to eliminate ambiguity. In general two criteria were used for item retention. First, the item had to generate variance--there had to be a spread in the way respondents answered the questions. Second, the items were selected only if they generated no negative feedback from respondents.

In the initial form the instrument contained a number of questions requiring respondents to make a situational choice, rather than only to indicate their degree of assent to a particular statement. This type of question produced considerable negative feedback. It was clearly difficult for some respondents, especially those with minimal reading skills to respond to questions phrased in this manner. A higher proportion of those questions were omitted than the Likert scaled items.

The initial form of the instrument required the respondent to indicate agreement or disagreement on a scale which was not symmetric. It had been hoped that greater variance in response might be obtained by forcing a degree of agreement. Because this procedure was found confusing by the respondents a symmetric Likert scale with five points was decided upon.

FIGURE II-A

Blueprint for Developing ^{Item} or Tolerance
for Bureaucratic Structure Instrument

Area	Rules and Regulations	Authority	Task	Delay of Gratification
Percent of Questions	30%	30%	20%	20%

<u>Response:</u>	Strongly Disagree	Disagree	Agree	Strongly Agree
<u>Scoring:</u>				
Positive Items	0	1	3	4
Negative Items	4	3	1	0

The score of 2 was assigned to items that were omitted or where the response was ambiguous. The items on the instrument were worded so that in about half of the items agreement was coded as bureaucratic while in the other half disagreement was coded as bureaucratic. This was done to avoid the development of a general tendency to agree or disagree with all items regardless of their content.

3. Preliminary Item Analyses

While a rough analysis of the tryout of the 106-item version of the instrument was done, the criteria used at that stage were qualitative rather than quantitative. The first version of the instrument on which an item analysis was done was the 86 item version of the instrument.

The 86-item version of the instrument was administered to 149 trainees in the WIN training program. The administration of the instrument was accomplished by counselors and teachers indigenous to the site. A professional member of the project staff was also present during test administration in order to observe the reactions of the trainees to the instrument.

Table II-1 presents the items used at this stage of

TABLE II-1

Point Biserial Item Total Correlations on Interim
Instrument

Item	Point Bi-serial
<u>Rules and Regulations</u>	
1. Even if I do not like a rule I usually obey it.	.453
2. I enjoyed filling out this form.	.414
3. The best jobs for me are the ones with set hours, like from 9AM to 5PM.	.360
4. I like to get up at the same time every morning.	.356
5. Sometimes I wish I could change jobs every few months.	.335
6. I would like working at a job where you had to come in at the same time every day.	.348
7. I would like to have a job where I set the hours.	.322
8. It seems to me that most rules on the job are not really needed.	.261
9. It makes me angry to see other people wasting time on the job.	.261
10. A boss should expect you to take a sick day for personal business when you need it.	.236
11. The only thing wrong with breaking rules is getting caught.	.204
12. If everybody obeyed the rules at work fewer people would get hurt.	.208
13. If a person is late for work he ought to be punished.	.163

TABLE II-1 (Continued)

14.	Foremen should punish people they catch sleeping on the job.	.156
15.	I enjoy taking tests.	.162
16.	I like to have my lunch hour at the same time every day.	.148
17.	I would like to work from midnight to 8AM.	.078
18.	It might be fun to work days one month and nights the next.	.100
19.	Working odd hours is OK with me.	.063
20.	If you are caught smoking in a room where there is no smoking you ought to be forgiven.	.015

Delay of Gratification

1.	It is smart to take a chance once in a while.	.362
2.	If I won a lot of money I would first take a vacation.	.349
3.	Work is the most important thing in life.	.337
4.	I dislike waiting.	.327
5.	It is often good to wait and think over things before deciding.	.290
6.	When I apply for a job I get mad if they make me wait to find out if I got the job.	.287
7.	It is important to save a regular part of your salary each week.	.286
8.	It is hard for me to keep from blowing my top when someone gets me very angry.	.262
9.	I like to spend money as soon as I get it.	.253
10.	What happens to you in life depends on hard work.	.248

TABLE II-1 (continued)

11.	I would like to have money for a savings bond taken out of my pay.	.202
12.	The long years spent in getting an education are OK.	.159
13.	If I were given a gift of \$1000 I would put all the money in the bank.	.159
14.	I like to plan ahead.	.137
15.	I would rather have \$100 today than \$200 in a year.	.131
16.	I like to keep some money in the bank.	.112
17.	I find waiting for a bus annoying.	.108
18.	I like things to move fast.	.105
19.	I would rather be paid every week than every month.	.039
20.	I would rather do without something than buy it on time.	.014
21.	When I do something I like to see how it comes out right away.	.037

Authority

1.	I often get mad when I am told what to do.	.455
2.	I think a boss has the right to tell you exactly what to do.	.434
3.	The worst part about working is having to take orders.	.425
4.	I like people telling me how to do things.	.397
5.	A company has the right to tell you what to wear to work.	.385
6.	People who refuse to obey orders on the job are often right.	.384

TABLE II-1 (continued)

7. I like the responsibility of working without a boss.	.351
8. I think most bosses know what they are doing.	.226
9. It is better to be your own boss than to work for someone else.	.317
10. Workers often know more than bosses.	.315
11. Most foremen are too bossy.	.238
12. I usually do what the boss says even if I do not agree with him.	.248
13. Most foremen are too bossy.*	.238
14. I like to give orders to others.	.235
15. Often the people who are supposed to teach you about a job know less than you do.	.234
16. If a boss gives you a bad job he ought to be told off.	.221
17. It is better to be a worker than a foreman.	.198
18. I want my supervisor to be fair even if it hurts me sometimes.	.178
19. If we could do away with supervisors most jobs would be better.	.166
20. What the boss thinks about my work means more to me than what I think about it.	.151
21. I would rather figure something out myself than have someone else tell me how to do it.	.129
22. I would probably get the jitters before taking the test for a driver's license.	.026
23. I would like the responsibility of working on my own.	-.032

*Question 13 is the same as question 11. The question was repeated in order to check for consistency of response. In the actual instrument the two items were more widely separated.

TABLE II-1 (continued)

24. A boss should get mad when someone makes a mistake. -0.091

Task

1. I would like a job where I had more control over the way I work. .417
2. Jobs where you have to sit in the same place all day would drive me crazy. .371
3. I would like a job where I had more control over the way I work. .350
4. I like to work at a steady speed. .349
5. I would hate a job where you could not see the finished product. .305
6. I like to set my own pace when working. .289
7. The best job for me would be the one where you knew exactly what you had to do even if you did not know why you had to do it. .280
8. I get mad when I have to fill out forms. .272
9. I would like a job that takes you to different places. .225
10. When I make something I like to show it around. .177
11. Most factory jobs are dull. .170
12. I want to make sure that I produce more than the average worker. .164
13. The best jobs are ones where you know exactly what you have to do. .159
14. When I was in school I liked to memorize things. .141
15. Assembly line work is not for me. .130
16. Jobs that are simple are the best for me. .127

TABLE 11-1 (continued)

17. The only thing I need to know about my job is how to do my own work.	.077
18. I would like a job where you could do the same thing all the time.	.059
19. I hate to make decisions.	- .164

development as well as the correlation of each item with the total score on the instrument. The items are listed by area and in order of item total correlations. In the actual instrument they are randomly distributed.

Because the number of subjects who were administered this version of the instrument was relatively small the data were not factor analyzed at this stage. In view of the fact that the items had been written to represent four distinct sub-areas separate scores were computed for each subject on the sub-scales. The sub-scale scores were then correlated with each other. Table II-2 presents the correlations between each of the sub-scales.

The correlations among the sub-scale scores are all positive. There are substantial correlations between the sub-scales and the total test score.

Because the magnitude of the correlation between variables is limited by their reliability, the correlation coefficients were corrected for attenuation. These correlations are presented in Table II-3.

As is indicated, each of the correlations is positive and with the exception of the correlation between task and rules and regulations each of the correlations is substantial. The relatively high correlations between the areas tends to support the notion that a single dimension underlies each of the four areas and thus provides some justification for the use of a single score to represent tolerance for bureaucratic structure.

TABLE II-2

Intercorrelations Among the Four Areas

	1	2	3	4	5
1. Rules and Regulations	---	.535	.181	.377	.700
2. Authority		---	.453	.548	.880
3. Task			---	.365	.629
4. Delay of Gratification				---	.752
5. Total					---

TABLE II-3

Area Intercorrelations Corrected
for Attenuation

	1	2	3	4
1. Rules and Regulations	---	.912	.365	.758
2. Authority		---	.838	1.000
3. Task			---	.793
4. Delay of Gratification				---

FIGURE II-B

Questions Defining Tolerance for
Bureaucratic Structure

Questions Related to Rules and Regulations:

Even if I do not like a rule, I usually obey it.
If a person is late for work, he should not be paid for the time.
I enjoyed filling out this form.
A boss should expect you to take a sick day for personal business when you need it.
It makes me angry to see people wasting time on the job.
If everybody obeyed the rules at work, fewer people would get hurt.
Often, the only thing wrong with breaking rules is getting caught.
It seems to me that most rules on the job are not really needed.
The best jobs for me are ones with set hours, like from 9AM to 5PM.
Sometimes I wish I could change jobs every few months.
I would like to have a job where I set the hours.

Questions Related to Authority:

The worst part about working is having to take orders.
I like people telling me how to do things.
I like the responsibility of working without a boss.
When I am working, I like my boss to tell me how I am doing.
Most foremen are too bossy.
It is better to be your own boss than to work for someone else.
I think a boss has the right to tell you exactly what to do.
A company has the right to tell you what to wear to work.
I think most bosses know what they are doing.
Workers often know more than bosses.
I often get mad when I am told what to do.
People who refuse to obey orders on the job are often right.
I usually do what the boss says even if I do not agree with him.

FIGURE II-B (continued)

If a boss gives you a bad job, he ought to be told off.

Questions Related to Task:

I would like a job where I had more control over the way I work.

The best job for me would be one where you knew exactly what you had to do even if you did not know why you had to do it.

I like to work at a steady speed.

I like to set my own pace when working.

Jobs where you had to sit in the same place all day would drive me crazy.

I would like a job that takes you to different places.

I would hate a job where you could not see the finished product.

Questions Related to Delay of Gratification:

If I won a lot of money I would first take a vacation.

It is important to save a regular part of your salary each week.

I like to spend money as soon as I get it.

When I apply for a job, I get mad if they make me wait to find out if I got the job.

It is hard for me to keep from blowing my top when someone gets me very angry.

I dislike waiting.

It is often good to wait and think things over before deciding.

It is smart to take a chance once in a while.

Work is the most important thing in life.

What happens to you in life depends on hard work.

FIGURE II-C

Distribution of 43 Items by Area in Final Version of Tolerance for Bureaucratic Structure Instrument

	Rules and Regulations	Authority	Task	Delay of Gratification
Percent of Questions	35%	26%	16%	23%

As a consequence of the above analyses a decision was made to compute a single score to represent Tolerance for Bureaucratic Structure and to reduce the number of items on the instrument by eliminating those items with low item total correlations from the interim version of the instrument.

4. The Final Version of the Instrument

On the basis of the item analysis data generated above the number of items on the instrument was reduced from 86 to 43. In eliminating items two criteria were used. Insofar as possible the number of items retained in each of the areas should conform to the test blueprint and items which had low item total correlations would be removed.

Figure II-B presents the items selected for the final version of the instrument. Figure II-C presents the percent of items that fall into each of the four sub-areas.

B. Operationalization of the Structure of Work Roles Construct

From our brief look at theoretical discussions of jobs and work organizations and at existing job measurement efforts (both qualitative and quantitative) it is clear that the notion of structure has resonance as a relevant analytic dimensional aspect of jobs likely to affect individuals' responses to their work.

The instrument development involved four steps:

operationalizing the construct by developing a series of actual job attributes that contribute to the degree of structure in an actual job; second, generating a series of indicators of structure based on the work role attributes; third, designing a simple questionnaire-type instrument based on these indicators; fourth, pre-testing and shortening the instrument to a manageable length.

1. Instrument Blueprint

In the theoretical section of this report, we discussed the concept structure in relation to other attempts to describe and measure jobs and work behavior and the contribution of this literature to our understanding of potential sources of structure. From this endeavor we have derived nine characteristics of work roles that theoretically describe a structured job. Each of these characteristics, as the basic concept itself, may be conceived of as a continuum along which any actual job may be empirically located. In order to operationalize the concept of structure, we must provide a series of measurable role attributes and then develop indicators of these attributes. In developing a set of role attributes that operationalize the concept, structure, we must keep in mind that (1) we are concerned with three major aspects of roles - task activities, supervisory relations, and general conduct; and that (2) we are concerned with actual behavior as well as formal regulations. In

addition, we must keep in mind that the role attributes must apply to all work roles since the measurement endeavor is designed to be comparative.

Figure II-D represents a list of role attributes that define concretely each of the nine structured characteristics of jobs.

These role attributes represent an operational definition of the concept structure. Since the concept is a continuum, the more frequent the incidence of these attributes, the greater the degree of structure characterizing that work role. Roles can be compared both in degree of structure and in the type of structure characteristic of them (that is, bureaucratically structured or structured by tight role management).

Now let us turn to the actual implementation of such a measurement.

2. Development of the Job Description Questionnaire

Basic to our measurement approach are several methodological assumptions and a particular conception of how the instrument is to be used. Let us turn first to these and then to the Job Description Questionnaire itself.

The first assumption is that the measurement must be based on actual field information. The lack of detailed written descriptions providing information about all the relevant aspects of jobs precludes using any written

FIGURE II-D

Role Attributes (Bureaucratic and Tight)
of Structured Work Roles

"Bureaucratic" Role Attributes

1. Inelastic Role Boundaries

Duties are not supposed to change, and do not change.
Exact duties are fully prescribed: no ambiguity in the specifications.

2. Fragmented Task Activities

Duties consist of a single (small number) major task.
Task consists of a single (few) major operation or step.
Task cycle is short in duration.
Contribution of task to total operation is negligible.
No or little interaction is required with other workers or foreman.
Visibility of task's contribution to total operation is low.

3. Rules of Task Performance [Procedures]

The work place is a single, pre-determined or specified location.
Amount of work done is pre-determined or specified.
Quality of work done is pre-determined or specified.
Methods by which task performed is pre-determined or specified.
In-put materials used in task performance are pre-determined or specified.
Sequence of task performance is pre-determined or specified.
Pace of task performance is pre-determined or specified.
Tools used in task performance are pre-determined or specified.
All exceptions to specified task procedures turned over to another specified person.
Changes in the task procedures are initiated from outside the work role.

(Continued)

FIGURE II-D (continued)

4. Direct Supervision

The work role has a single supervisor.
 All communications to the worker are channeled through the supervisor.
 All communications from the worker go to the supervisor.
 The worker issues no instructions to other workers.

5. Rules of General Conduct

Starting and quitting times are specified.
 Hours or shifts are specified.
 Rest breaks are specified.
 Lunch period is specified.
 Rules limit personal phone calls while at work.
 Starting rate of pay is specified.
 Lateness is not permitted.
 Parts of the work establishment are restricted to access.
 Smoking is not permitted except in specified areas.
 Absences must be excused.
 Sick days are limited.
 Clothing is specified.
 Rules limit non-work related conversation.
 Annual vacation is specified.
 Leave without pay is not permitted.

6. Promotional Ladder

The job is part of a normal sequence of promotion.
 Workers are expected to move up the promotional ladder.
 Workers must have additional training to move up the promotional ladder.

"TIGHTNESS" ROLE ATTRIBUTES7. Regulation of Task Performance [enforcement of procedures]

Workers carry out their tasks in the specified work place.
 Workers obtain permission before leaving their work.
 Workers have no influence on the amount of work they do.
 Workers have no influence on the quality of work they do.
 Workers do not: alter the prescribed work methods;

(Continued)

FIGURE II-D (continued)

Workers do not: use tools other than those prescribed;
 evaluate in-put materials assigned;
 alter the sequence of work;
 alter the pace of work;
 handle exceptions;
 take unauthorized time away from their
 work place;
 offer suggestions concerning changes in
 work procedures.

8. Close Supervision

The supervisor is supposed to check the quantity of out-
 put, and does.
 The supervisor is supposed to check the quality of out-
 put, and does.
 The worker is visible to the supervisor.
 The supervisor frequently checks the worker personally.
 The supervisor personally assigns all work.
 The supervisor personally determines how all tasks
 will be done.
 The supervisor formally evaluates the worker's per-
 formance.
 The supervisor does not seek the advice of the worker.
 Workers do not question the supervisor's directions.
 The supervisor may fire, promote, demote, and dock pay,
 and does.
 The supervisor has few subordinates.
 The supervisor has no duties other than administration and
 supervision.
 Status differences between the supervisor and subordinates
 are visible.
 There are no formal mechanisms by which a worker can appeal
 supervisory decision, or they are infrequently utilized.

9. Regulation of General Conduct [enforcement of rules]

Workers are reprimanded if they violate rules pertaining to:
 time of arrival and departure;
 time and duration of breaks;
 clothing;
 areas of restricted access;
 non-work related conversation;
 personal telephone calls;
 smoking.
 Workers are docked pay for violations.
 Workers are fired for violations..

 (Continued)

FIGURE II-D (continued)

Workers punch in and out.

Personnel files contain records of all rule violations
and reprimands.

Proof of an excused absence is required (e.g., doctor's
note).

materials as the basic source of data. So also does the need to assess what actually occurs on the job rather than relying on formal characteristics of the work alone.

The second assumption is that the measurement must be made by someone acting as an informant about the job. This is particularly important since we are concerned with such aspects of the job as the enforcement of rules and less formally established restrictions.

The third assumption is that the measurement format must be easily administered. Researchers can rarely intrude into an on-going business organization, so the measurement of jobs must be kept as simple as possible but still based on actual observation.

Given these three assumptions, we chose supervisors as our informants in collecting field data on jobs. It is not difficult to obtain accurate information on the formal aspects of a job, especially the task area. Turner and Lawrence (1965), for example, found that task-related attributes are as reliably reported by the worker as by an impartial, trained observer. This indicates that almost any close observer of the job - the worker, his supervisor, trained observer - would be adequate. In measuring structure, however, an insider is probably the better choice since even the formal attributes are somewhat less visible than those measured by Turner and Lawrence since they include supervisory structure and general conduct rules and regulations. We chose the supervisor since he is accessible and, if the

instrument were to be applied to hiring situations by companies, he would be the informant most easily used.

On the other hand, the enforcement of rules and regulations and the closeness of supervision involve more subtle interpersonal relationships and could be construed as more delicate, threatening material by an informant. There are several issues. The supervisor is probably less likely than the worker to be threatened by answering such questions about the job. Under two conditions we expect the supervisor to rate the job higher on rule enforcement than might actually be the case: if the company has access to his ratings and if it is perceived by the informant as desiring stricter enforcement than he was actually carrying out. (The same bias would appear if the worker were used as the informant since he would fear that acknowledging low enforcement might bring about stricter enforcement.) Nevertheless, in either case, the rating by the informant would reflect the fact that enforcement or potential enforcement is greater in this situation because of the attitude of management than is the case in less tight organizations.

Where the influence of the company is not an issue, supervisors are likely to be good informants about their own style of supervision, certainly better than an outsider observing the situation for a short period of time. A supervisor who is authoritarian is likely to be proud that he "runs a tight ship" or its equivalent, and to feel that strict enforcement is the correct supervisory method. More

loose supervisors are also likely to feel their method superior; unless they are at considerable variance with the stated or tacit company supervisory policy, they are likely to be open about the jobs they supervise.

Whether workers hide their rule-violating behavior is another problem in using the supervisor as informant. The answer is clearly that workers do, but the extent of their concealment is likely to be greater in situations where the supervisor is a rule-enforcer (a tight supervisor). Thus where the supervisor states that rules are enforced, but where hidden violations actually do occur, the incorrect answers are in the correct direction in measuring the actual situation, namely a tightly managed job.

For these reasons we have chosen to use the supervisor as the informant. We also decided to use a simple yes-no questionnaire formal, concrete, highly specific questions about the job, that are easily answered and few in number.

3. The Items

The Job Description Questionnaire is composed of forty-five items selected from an original list of one hundred sixty-nine items. The original items were developed to cover all nine subareas of the structure dimension. They were administered to a sample of individuals in a range of structured/unstructured jobs and the best items selected on the basis of item-total correlations. This smaller group

of items included some from each of the subareas with the exception of the "elasticity of role boundaries" area of the bureaucratic sub-dimension. This area was omitted from the final inventory.

Of the forty-five items in the inventory, twenty-six are indicators of "bureaucratic" attributes of the job and nineteen "tightness" attributes. For example, an indicator of the fragmentation of task activities is a negative reply to the following question: "Does a worker's major task on his job require him to carry out many different operations or steps?" An indicator of the existence of rules governing task performance is a negative response to whether a worker in this job is supposed to select the methods he uses to do his work. If the worker is directly responsible to a single supervisor, it is an indicator of direct supervision. An indicator of the bureaucratic regulation of general conduct is whether the worker is covered by a rule that prohibits him from making or receiving personal telephone calls while at work. The rest of the specific items measuring each of the bureaucratic areas are presented in Figure II-E. They are indicators of some of the bureaucratic job attributes found in Figure II-D.

The "tightness" attributes of jobs are measured by nineteen items. For example, an indicator of the enforcement of task rules is a negative response to the question

FIGURE II-E

Job Description Questionnaire:
Indicators of Structured Work Role Characteristics

"Bureaucratic" Indicators1. Inelastic Role Boundaries

None.

2. Fragmented Task Activities

- A. Does a worker's major task on this job require him to carry out many different operations or steps?
- B. In this job, does the worker make a considerable contribution to the entire final product or service?
- C. In the normal course of his work, does a worker in this job actually see the final product or service rendered?
- D. Do more than 20 workers in this organization have the same job?
- E. Can this job be learned in a day or two, or less?
- F. Does a worker in this job generally work on a large part of the total product or service rendered?
- G. In this job, is a worker's own contribution to the final product or service clearly visible to him?
- H. While he is working, is it possible for a worker in this job to pick up new or more advanced skills?

3. Rules of Task Performance (Procedures)

- A. Is there any time during the work day when a worker in this job is not officially assigned either specific tasks or a rest break (that is, is there generally any "free" time)?

(Continued)

FIGURE II-E (continued)

- B. Is a worker in this job supposed to select the methods he uses to do his work?
- C. Is a worker in this job supposed to set his own work pace?

4. Direct Supervision

- A. Is a worker in this job directly responsible to a single supervisor?
- B. Does a worker in this job routinely issue instructions to someone beneath him?
- C. Are all communications to a worker about his work supposed to be channeled through his immediate supervisor?
- D. Is a worker in this job supposed to take all questions or requests for help only to his immediate supervisor?
- E. Do workers in this job often actually go to a superior other than their supervisor for advice or direction?

5. Rules of General Conduct

- A. Is a worker in this job supposed to take lunch only at an assigned time?
- B. Is a worker in this job supposed to take only a certain number of sick days?
- C. Is there a regulation prohibiting a worker in this job from regularly making or accepting personal telephone calls while at work?
- D. Is the amount of time a worker is allowed for a break specified?
- E. Is a worker in this job allowed to smoke while on the job?
- F. Is a worker in this job supposed to take his breaks only at assigned times?
- G. Is there a list of company rules and regulations posted near where a worker in this job works?

(Continued)

FIGURE II-E (Continued)

6. Promotional Ladder

- A. Is there a normal sequence of promotion open to a worker entering this job?
- B. Do most workers who enter this job move to the next position in the promotion sequence?
- C. Is the worker required to have additional training in order to be promoted?

"Tightness" Indicators7. Regulation of Task Performance (Enforcement of Procedures)

- A. Do workers in this job often leave their work, say for 5 minutes, without permission?
- B. While on the job, can a worker move freely around the work area when he feels like it?
- C. Generally, are whatever problems or exceptions that arise in the course of his work handled by the worker himself rather than turned over to someone else?
- D. Do workers in this job often alter the prescribed work sequence?
- E. Does his supervisor personally check a worker in this job at least once an hour?
- F. Does the supervisor normally keep a record of the reprimands he gives?
- G. Do supervisors often dock the pay of workers in this job?
- H. Does his supervisor personally tell a worker exactly how he is to do his work?

9. Regulation of General Conduct (Enforcement of Rules)

- A. If a worker in this job comes in fifteen minutes late, will he generally be reprimanded?
- B. Will a worker in this job generally be reprimanded if he takes a longer break than regulations allow?

(Continued)

- C. Will a worker in this job generally receive a reprimand if he smokes while working?
 - D. Will a worker in this job generally be reprimanded if he makes personal telephone calls while on the job?
 - E. Is a worker in this job normally docked pay for each unexcused absence?
 - F. Is a worker in this job docked pay whenever he is late?
 - G. Does a worker in this job punch in and out?
-

"Do workers in this job often leave their work, say for 5 minutes, without permission?" Close supervision is measured by eight questions, one of which is "Does the supervisor of this job always actually check the quantity of work the worker does?" Finally, the enforcement of rules of general conduct is indicated by appropriate responses to such questions as "If a worker in this job comes in fifteen minutes late, will he generally be reprimanded?" Again, the complete list of items is found in Figure II-E. The score on the instrument is the number of questions to which a bureaucratic answer is given.

4. Reliability Data

The Job Description Questionnaire was administered to two groups in order to gather evidence regarding the reliability and validity of the instrument. The first group included the supervisors of the Bank Clerks who are more fully described in section III-B. The instruments were distributed to the supervisors of those workers with instructions to fill out the instrument regarding that particular job which the worker held.

Table II-4 presents the mean score and the standard deviation of scores on the Job Description Questionnaire for this group.

The reliability of the instrument as measured in this group is probably an underestimate of the instrument's

reliability when used in a larger sample of jobs. The group in question is relatively homogeneous regarding the conditions of work as compared to the variability in the conditions of work found when sampling across different companies. For example there are company wide policies regarding certain practices concerning personnel.

TABLE II-4

Mean, Standard Deviation, and Reliability of Job Description Questionnaire in Bank Clerical Site

Mean	16.82
Standard Deviation	5.56
Number	180
Reliability*	.75

* Coefficient alpha

Table II-5 presents the item total correlations obtained in this group. Only one of the correlations is negative.

A second attempt was made to obtain an estimate of the reliability of the measure in a more diverse group of jobs. A group of selected individuals with past experience in supervising a variety of jobs was asked to complete the instrument regarding the jobs they supervised. The jobs

TABLE II-5

Item Total Score Correlations for Job Description Questionnaire in Bank Clerk Site (N=180)

Item	Biserial r	Item	Biserial r
1	.286	23	.027
2	.277	24	.175
3	.252	25	.543
4	.313	26	.328
5	.326	27	.446
6	.391	28	-.061
7	.341	29	.245
8	.394	30	.593
9	.195	31	.107
10	.438	32	.426
11	.039	33	.061
12	.411	34	.121
13	.381	35	.236
14	.096	36	.280
15	.367	37	.036
16	.106	38	.477
17	.405	39	.285
18	.262	40	.284
19	.239	41	.315
20	.445	42	.119
21	.099	43	.442
22	.310	44	.415
		45	.229

included secretarial jobs, clerical jobs, production line jobs, and Civil Service jobs. Table II-6 presents the mean score and the reliability estimate for this group.

Note that the reliability estimate is somewhat higher. This is probably a function of the increased variability in the jobs sampled in this group.

TABLE II-6

Mean, Standard Deviation and Reliability of Job Description
Questionnaire in Miscellaneous Clerk Site

Mean	16.58
Standard Deviation	7.77
N	36
Reliability*	.859

*Coefficient Alpha

Table II-7 presents the item total correlations for this group.

In comparing the item total correlations presented in Table II-5 with those in Table II-7 it should be noted that there are two negative item total correlations and they do not occur on the same item in each of the groups.

It should also be noted that the jobs which were sampled in an attempt to demonstrate the reliability of the

TABLE II-7

Item Total Correlations for Job Description Questionnaire
in Miscellaneous Clerk Site (N=36)

Item	Biserial r	Item	Biserial r
1	.388	24	.516
2	.331	25	.573
3	.408	26	.505
4	.150	27	.378
5	.470	28	.315
6	.436	29	.417
7	.494	30	.664
8	.675	31	.407
9	.153	32	.295
10	.548	33	.342
11	.407	34	.424
12	.476	35	.388
13	.338	36	.284
14	.532	37	.432
15	.277	38	.410
16	.116	39	.393
17	.053	40	.386
18	.130	41	.082
19	.321	42	.581
20	.322	43	.341
21	.272	44	.237
22	.567	45	.341
23	.484		

instrument do not constitute anything approaching a sample of the jobs available to the average worker. Consequently the mean scores and the variation obtained cannot be considered norms for any larger group.

5. Validation Information

The content validity of the instrument has been discussed in previous sections. The predictive validity of the instrument can be established only in conjunction with the TBS instrument. There is certain data regarding the construct validity of the instrument which can, however be presented.

As previously mentioned, the Dictionary of Occupational Titles contains a section entitled "worker trait characteristics." These materials are based on detailed observation of a wide variety of jobs and, hence, provide some validation data for our job instrument. We would expect that for those job characteristics discussed in the DOT which conceptually relates to the notion of "structure," there would be a positive correlation between the DOT and the Job Description Questionnaire.

Table II-8 presents these correlations for the occupational groups which have been described above.

Note that all of the correlations are in the predicted direction and significant although they are small. The relatively small magnitude of the correlations can be explained on the basis of the fact that the groups included in the

TABLE II-8

Correlation Between Job Description Scores and Dictionary of
Occupational Titles Worker Trait Characteristics for
Combined Bank Clerk and Miscellaneous Clerk Sites

Dot	Correlation	Number
Situation involving a preference for activities of a routine, concrete organized nature	.173**	224
Situations involving repetitive or short cycle operations	.242**	224
Situations involving doing things under specific instruction	.138*	223
Situation involving the precise attainment of set limits	.393**	223

* p < .05
** p < .01

analysis are relatively homogeneous as contrasted to the entire range of jobs. Secondly the DOT provides at best a rough measure of the construct which the JDQ seeks to measure. For example in the DOT the worker trait characteristics of the taxi driver and the bus driver are exactly the same. Yet it would seem to be abundantly clear that the degree to which each of these jobs is structured varies rather considerably. Relative to the bus driver the taxi driver has an enormous freedom in determining his place of work, the hours of his work, the pace of his work, etc.

III. DESCRIPTION OF THE SAMPLES USED FOR INSTRUMENT VALIDATION

A. Federally Funded Job Training Programs

1. Worker Incentive Program

The Worker Incentive Program (WIN) in an Eastern State is designed to provide basic educational and job training for individuals who have been receiving public assistance, in particular Aid to Families with Dependent Children, and to assist them obtain jobs. Although the program is centrally administered, it is carried out in some 21 Centers throughout the state. We obtained data from each of these Centers. While many enrollees to the program are voluntary, an element of compulsion is possible since a social worker can require an individual receiving ADC to enroll in the program.

The formal structure of the WIN program calls for several stages in processing enrollees. Each enrollee, regardless of the particular training program to which they are ultimately assigned, initially begins with a two week orientation program. During orientation the trainee is introduced to the WIN program and the training options available at the end of orientation. The enrollees are tested and interviewed by counselors in the WIN program as well as personnel from the State Employment Service.

At the end of the orientation program the trainee is supposed to move into one of the available educational or skills programs, and is placed directly in a job or terminates affiliation with the program. Those trainees who possess skills which

can be immediately utilized by an employer and who indicate a desire to be placed are supposed to be hired directly at the end of the orientation program if there is a job available. In our particular sample this group constituted only a small fraction of the total.

Other trainees are placed in specific job training programs run at the WIN site. Clerical training, typing instruction, and general office procedures form the basic instruction for many trainees. There is also general mechanical training in preparation for work in the automotive industry.

In some cases the specific job training available is on a contract basis with a third party. Examples of such specific job training include programs run by local junior colleges and programs (such as beautician training) run by private corporations.

In many cases, however, these potential workers do not have sufficient basic skills to be placed either in a job or a job training program. Such trainees are supposed to be placed in an educational enrichment program. The program involves general educational development, enhancing the ability of the trainee to read, write, and do simple arithmetic. In some cases the general educational training may lead to a high school equivalency diploma and even enrollment in a Junior College.

Given the nature of the WIN program most of the enrollees are women:

Table III-1

WIN:	Sex
Male	6%
Female	94
TOTAL	100%
(N)	(117)
NA	1

Almost half of them are between the ages of 20 and 30 years:

Table III-2

WIN:	Age
Less than 20 years old	4%
20 - 29 years old	47
30 - 40 years old	37
41 - 57 years old	12
TOTAL	100%
(N)	(110)
NA	8

Almost one third of the group reports that they are single and 41% of the group that they are divorced. Less than one third of the group is married:

Table III-3

WIN: Marital Status	
Single	31%
Married	27
Divorced	41
Other	1
TOTAL	100%
(N)	(108)
NA	10

The individuals have a relatively large number of children. Almost one third of the group has more than three children:

Table III-4

WIN: Number of Children	
None	6%
One child	19
Two children	25
Three children	18
Four or more children	32
TOTAL	100%
(N)	(110)
NA	8

They are not particularly well educated. Eighty four per cent of the group reports having had less than a high school education:

Table III-5

WIN: Education	
8 years or less	22%
9 - 11 years	62
12 or more	16
TOTAL	100%
(N)	(111)
NA	7

A majority were born in the East although more than one third were born in the South:

Table III-6

WIN: Place of Birth	
<u>United States:</u>	
East Coast	52%
South	38
Central	2
West	1
<u>Foreign, including</u> <u>Puerto Rico</u>	7
TOTAL	100%
(N)	(107)
NA	11

The group is heavily black with a substantial number of Puerto Ricans:

Table III-7

WIN: Race or Ethnicity	
Black	65%
White	5
Puerto Rican	29
Other	1
TOTAL	100%
(N)	(104)
NA	14

A majority of the group is Protestant with less than one percent Jewish:

Table III-8

WIN: Religion	
Catholic	20%
Protestant	72
Jewish	1
Other	7
TOTAL	100%
(N)	(104)
NA	14

As a group they have not been employed regularly in the past two years. Given the large number of children and the fact that they have been receiving welfare payments this is not unexpected:

Table III-9

WIN: Number of Months of Full Employment in Last 2 Years	
Six months or less	93%
7 - 12 months	7
13 - 24 months	--
TOTAL	100%
(N)	(103)
NA	15

Less than half the workers have held even a single job in the past two years.

To summarize, the enrollees in the WIN program are largely young minority group women who have not had a stable employment history largely because they are caring for relatively large, young families. The program is formally structured with clear steps and requirements. The program may not be in reality as formally structured as it would appear in documents describing it.

2. Concentrated Employment Program

The Concentrated Employment Program (CEP) is designed to prepare potential workers for gainful employment and to train

them in the skills and attitudes necessary to hold jobs. We obtained data from CEP programs in two states. In each of the cases the CEP program was located in an urban area in a section of the community that might best be described as disadvantaged.

The structure of the CEP programs that were tested, is similar to the structure of the WIN program. There is an initial period of testing and counseling. Upon completion of the common orientation program there are a number of alternatives open to the enrollee. He may go to a job directly if one exists that he wants and that he is qualified for, he may enroll in a job training program or he may enroll in an educational development program.

The job training programs in the CEP sites were somewhat more elaborate than the job training programs associated with the WIN programs. There were formal programs designed to prepare workers for a variety of jobs.

The CEP programs are to a higher degree than the WIN programs voluntary. In the WIN program continuation of aid is often contingent upon enrollment in the program. For most of the enrollees in the CEP programs association is voluntary. Although in a number of cases individuals were given a parole on condition that they enroll in the program.

The CEP programs have a much higher proportion of males than the WIN programs:

Table III-10

CEP:	Sex
Male	62%
Female	38
TOTAL	100%
(N)	(263)
NA	16

As a group they are somewhat younger. Over one third are below 20 years of age:

Table III-11

CEP:	Age
Less than 20 years old	34%
20 - 30 years old	46
31 - 50 years old	17
51 - 63 years old	3
TOTAL	100%
(N)	(261)
NA	18

They are not well educated. Almost three quarter of the group had not completed high school:

Table III-12

<u>CEP: Education</u>	
8 years or less	27%
9 - 11 years	47
12 years	22
13 - 16 years	3
TOTAL	99%
(N)	(265)
NA	14

Southerners are strongly represented since one of the sites is in a southern state:

Table III-13

<u>CEP: Place of Birth</u>	
<u>United States:</u>	
East Coast	17%
South	62
Central	2
West	1
<u>Foreign, including</u> <u>Puerto Rico</u>	17
TOTAL	99%
(N)	(230)
NA	49

A substantial number of foreign born and Puerto Ricans are included in the group. Of those who were born outside the continental United States a majority arrived in this country between the ages of 11-21:

Table III-14

CEP: Age of Arrival in United States, if Foreign Born (including Puerto Rico)	
Less than 10 years	13%
11 - 21 years	54
22 - 30 years	20
31 - 43 years	11
TOTAL	98%
(N)	(47)
NA	232

Given the relatively young group the proportion of single people is not unexpected. The relatively high number of divorced is unusual given the young nature of the group:

Table III-15

CEP: Marital Status	
Single	55%
Married	21
Divorced	23
Other	--
TOTAL	99%
(N)	(258)

Similarly the number of children reported is less than the WIN group:

Table III-16

CEP:	Number of Children
None	41%
One child	23
Two children	18
Three children	7
Four or more children	11
TOTAL	100%
(N)	(229)
NA	50

Most of the sample are black:

Table III-17

CEP:	Race or Ethnicity
Black	76%
White	15
Puerto Rican	8
Other	1
TOTAL	100%
(N)	(260)
NA	19

Table III-18

CEP:	Religion
Catholic	34%
Protestant	62
Jewish	1
Other	3
TOTAL	100%
(N)	(225)
NA	54

As a group they do not have a stable employment history with over half of the group having been employed for less than 12 months in the past two years:

Table III-19

CEP:	Number of Months of Full Employment in Last Two Years
Six months or less	37%
7 - 12 months	20
13 - 24 months	42
TOTAL	99%
(N)	(210)
NA	69

Of those who had been employed most had held more than one job during this period:

Table III-20

CEP: Number of Different Jobs in Last Two Years	
1 job	34%
2 jobs	41
3 or more	25
TOTAL	100%
(N)	(176)
NA	103

As a group the CEP trainees are somewhat younger than the WIN trainees and also have a much higher proportion of men. The CEP programs are formally quite structured with a clear set of procedures specified for progress through the programs. In practice, however, the actual conduct of the programs was considerably less structured than would be indicated by the formal outline of the procedures. The hours kept by the enrollees and attendance at training all were in some cases less stringent than would be indicated by the formal nature of the programs. In some of the cases observed, there was little or no use of training materials which had been purchased. In many cases training materials were broken or not available. In one particular instance a trainee was being instructed in the use of a

wrench, but because all of the wrenches had disappeared was told to simulate the wrench. In one of the sites visited on several occasions, the director kept explaining that the absence of a large proportion of the trainees was due to field trips or community observances.

The normal structure of the job training programs and the actual conduct of the programs may differ considerably.

B. Bank Clerical Workers

Through the cooperation of the personnel department of a New York City bank, data were obtained on a number of clerical workers in the bank.

The site is a large international bank with offices throughout the world. The headquarters are located in New York City as are a large number of the bank offices. The bank maintains a centralized personnel research department which establishes policies for hiring used by all branch offices. For those branches located in the New York metropolitan area, the interviewing and testing of candidates is done at a centralized facility in the city.

While the bank employs a large number of workers in a variety of jobs, we focused our attention only on clerical workers in the bank. The majority of these workers do not work on the floor of bank offices dealing with customer transactions; rather they work in an administrative support capacity. While the workers held a variety of jobs the majority were classified as typists, stenographers, and secretaries with small

numbers of workers in each of several other assorted clerical positions.

There is an elaborate personnel policy throughout the bank, with uniform regulations regarding such matters as dress, hours of work, number and duration of breaks, time assigned for lunch hours etc. Similarly the procedures followed to dismiss a worker are standardized throughout the bank; warnings to employees are formal reports and counseling sessions are also formal procedures.

However, there is some variation in the degree to which these regulations are enforced. For example, in some offices a rigid rule against smoking is enforced while in others the rule is relaxed. Similarly, there is a degree of variability in the extent to which the actual task of a worker with a particular job is structured. The largest group of workers in the sample were employed as typists. Some typists are in a typing pool and they type a variety of correspondence. Others are production typists who retype the same standardized order forms as they are filled out. In short for some of the typists there is some degree of variety in the tasks performed while for others the tasks are quite uniform.

Demographic data were obtained from the personnel research office of the bank. In some cases only partial demographic data were released by the bank so that the sample size in the tables varies somewhat.

While the bank did not provide data regarding the sex of the workers, informal discussion would tend to indicate that the overwhelming majority are women.

In the first wave of testing, we obtained data on some entry workers. Table III-21 presents the information regarding age of this group. As one would expect the applicants are relatively young. For many of them this job is their first job after completion of their schooling.

Table III-21

<u>Bank Clerical:</u>	<u>Age</u>
Less than 20 years old	50%
20 - 30 years old	38
30 - 55 years old	12
TOTAL	100%
(N)	(58)
NA	188

In the second wave of testing, we obtained data on a number of clerks who had been employed at the bank for varying periods of time. Table III-22 presents data relating to the educational attainments of both the groups. Note that the

Table III-22

<u>Bank Clerical:</u>	<u>Education</u>
10 - 11 years	9%
12 years	77
13 - 16 years	13
TOTAL	99%
(N)	226

majority of the employees are high school graduates which reflects the fact that a minimal requirement for employment in many of the jobs is a high school education. A large number of those with more than a high school education are graduates of either business schools or junior college business and clerical programs.

Table III-23 presents data relating to the race of the bank employees. Although a majority of the clerks are white there are a substantial number of blacks employed. The percentage of blacks being hired at the bank is increasing. Older workers are almost exclusively white while a majority of the recent employees are black.

Table III-23

<u>Bank Clerical: Race or Ethnicity</u>	
Black	37%
White	54
Puerto Rican	5
Other	4
TOTAL	100%
(N)	(246)
NA	--

This group of clerical workers are employed at jobs which are relatively structured. They are generally young and very few have less than a high school education. While there is some variety in the specific tasks performed by these workers, they all work in a fairly structured business organization which creates the general requirements of their jobs.

C. Clerical Training Programs

1. Urban Bank Training Program

The bank clerk trainees are enrolled in a clerical training program for the disadvantaged sponsored by a bank whose corporate headquarters is located in New York City. The training program is designed to raise the skill level of minority group and other disadvantaged persons so that they can compete with other applicants for clerical positions in the bank. Individuals enrolled in the program are all certified as "disadvantage" under Federal criteria. Most applicants to the program are women, and many have been previously enrolled in other more general training programs sponsored by the Federal Government. A number of tests are used to screen applicants for the program. For example, each applicant must demonstrate the ability to read at a minimal level. In general, however the general educational level of the trainees is low.

The training program lasts for between 16 and 22 weeks depending on the particular part of the program in which the trainee is enrolled. The training program consists first of general educational development designed to improve the trainees' written and spoken English as well as their mathematical ability.

Second, specific job related training is provided particularly to develop typing skills and other, general secretarial skills. In addition, throughout the program trainees are encouraged to work closely with counselors whose goals are to assist trainees to deal with personal problems affecting their job performance.

2. Secretarial and Clerical Training Program

The clerk trainees are engaged in a simple training program for beginning clerical positions in a variety of New York City firms. This program was set up as a response to the problems of businesses who were interested in recruiting and training minorities and the disadvantaged for entry positions in their companies. Since most of the companies hire only a relatively small number of workers at one time, training workers with minimal skills to fill those jobs was a difficult and expensive task. Consequently a number of firms have centralized their training for clerical positions. They interview and agree to hire a particular worker. The worker will then be assigned for training to the independent training corporation which is responsible for their job preparation.

Screening these workers is a two stage process. Initially workers are tested and interviewed by the training corporation. Most workers who apply for training have already been enrolled in federally funded training programs such as WIN or CEP. These applicants are given a battery of aptitude and achievement tests as well as a personal interview. Those trainees who pass this preliminary screening are then sent for further screening to the particular company that will ultimately employ

them. The screening done by the companies is quite varied. Some companies test the applicants further, others simply conduct a short interview.

Upon being accepted into the program, the trainees attend sessions at the training center. Most of the training consists of conventional classroom instruction in typing, secretarial skills, English, steno, etc. The classroom environment is relatively structured. There are rules regarding attendance and dress which are rigidly enforced. Because of the competitive nature of the selection process, the threat of dismissal is quite real. Trainees who do not conform to the rules of the training center are frequently dismissed.

Towards the end of the formal classroom training program, trainees begin to spend a period of time during the day at the companies that hired them. They may begin with one day a week in the office where they will be employed and they gradually proceed to spending all of their time working on the job.

A majority of the trainees are actually placed on jobs. Since a company has been paying their salary throughout the training program and since the company has completed a screening process for the individual prior to acceptance into the training program, the rate of initial placement on actual jobs is quite high. No data were available on the success of the workers after beginning full time work.

Because we had to rely on the training center to administer the Tolerance for Bureaucratic Structure instrument and to collect follow up data, we were unable to obtain demographic

data regarding the subjects in the sample. However, a majority of the trainees at the center are members of minority groups and have been certified as "disadvantaged" under Federal criteria; they are almost exclusively women.

D. University Secretaries

This particular group of secretaries was obtained at three urban universities. Two of the institutions are private and one of the institutions is publicly supported. The job of secretary in a college community is somewhat different and less structured than the typical job of secretary in a business organization. The differences in structure are in part a reflection of differences in the institutions and in part a difference in the individuals who occupy those jobs.

While the formal task requirements of secretaries in both places of work are quite similar, they must, for example, answer telephones, type letters, take dictation, file correspondence, etc. the contexts surrounding the jobs are quite different. In a college a substantial proportion of the employees, professional and non-professional, follow an irregular schedule. Professors and sometimes administrators do not typically work 9 to 5, five days a week. They may work long hours one day and may not work at all on another day. Consequently, both the flow of work and the degree to which a secretary in a college is supervised varies considerably from day to day.

Similarly, the hours of work may vary considerably. During

it is quite common for secretaries to leave work early. During other periods of heavy work, a secretary may be asked to work extra hours in order to complete work which must be accomplished to meet a particular deadline.

The responsibility given to the secretary will also vary considerably. Because the professors and administrators for whom they work may not usually keep regular hours, some secretaries may be in a position to make a considerable number of decisions.

A second factor contributing to differences in the working conditions of secretaries in colleges has to do with the type of individual who is employed in such positions.

As is indicated in Table III-24 the majority of the secretaries in our sample were women:

Table III-24

<u>Secretaries: Sex</u>	
Male	4%
Female	96
TOTAL	100%
(N)	(166)
NA	2

A majority of them were between the ages of 20 and 30 years with 25% older than 41 years of age:

Table III-25

Secretaries:	Age
Less than 20 years	2%
20 - 30 years	54
31 - 40 years	18
41 - 50 years	14
51 - 64 years	11
TOTAL	99%
(N)	(162)
NA	6

As a group they are relatively well educated. Only 1% of the group does not have a high school education while 63% of the sample has had some college education:

Table III-26

Secretaries:	Education
10 years	1%
12 years	36
13 - 16 years	46
17 or more	17
TOTAL	100%
(N)	(164)
NA	4

Of those who were foreign born approximately one third came to the United States prior to age 10:

Table III-27

<u>Secretaries: Place of Birth</u>	
<u>United States:</u>	
East Coast	45%
South	11
Central	29
West	4
<u>Foreign, including</u> <u>Puerto Rico</u>	11
TOTAL	100%
(N)	(165)
NA	3

Despite the relative youthfulness of the group a substantial proportion of the group is married and a small fraction of the group is divorced:

Table III-28

<u>Secretaries: Marital Status</u>	
Single	32%
Married	56
Divorced	7
Other	5
TOTAL	100%
(N)	(168)
NA	--

A majority report having no children although there are some with as many as 4 children:

Table III-29

<u>Secretaries:</u>	<u>Number of Children</u>
None	58%
One child	11
Two children	13
Three children	11
<u>Four or more children</u>	<u>7</u>
TOTAL	100%
(N)	(139)
<u>NA</u>	<u>29</u>

The group is mainly white with a small number of blacks and Puerto Ricans:

Table III-30

<u>Secretaries:</u>	<u>Race or Ethnicity</u>
Black	9%
White	87
Puerto Rican	3
<u>Other</u>	<u>1</u>
TOTAL	100%
(N)	(162)
<u>NA</u>	<u>6</u>

Less than half of the group reports that they speak a foreign language and among those who do the most common language is Spanish:

Table III-31

Secretaries: Languages Spoken Other than English	
Italian	10%
Spanish	42
Others	48
TOTAL	100%
(N)	(60)
NA	108

A majority of the secretaries in the sample are Protestant with only a small proportion of Jews:

Table III-32

Secretaries: Religion	
Catholic	27%
Protestant	63
Jewish	3
Other	7
TOTAL	100%
(N)	(139)
NA	29

As a group the secretaries have not had a long work history. Thirty-nine percent of the group reports having been employed less than 12 months full time in the past two years:

Table III-33

Secretaries: Number of Months of Full Employment in Past 2 Years	
Six months or less	20%
7 - 12 months	19
13 - 24 months	60
TOTAL	99%
(N)	(160)
NA	8

This may be a reflection of the fact that college secretaries are often recruited from the ranks of students who are either going to school part time or who are working part time to stay in school. Forty-nine percent of those who worked reports having held more than one job in the past two years:

Table III-34

Secretaries: Number of Different Jobs in Last 2 Years	
1 job	51%
2 jobs	27
3 or more jobs	23
TOTAL	101%
(N)	(150)

The relatively transient nature of the group is reflected in the fact that 41% of the group has been employed at their present job for less than one year:

Table III-35

Secretaries: Length of Time on Present Job	
Less than 12 months	41%
12 - 24 months	28
25 - 36 months	10
37 - 60 months	12
60 - 120 months	8
120 - 240 months	2
240 - 348 months	3
TOTAL	104%
(N)	(157)
NA	11

The secretaries generally do not plan on remaining on the job for an extended period of time. Seventy percent of the group expects to be on the job for one year or less:

Table III-36

Secretaries: Length of Time Respondents Expect to Remain at Present Job	
Only a short while	32%
Another year	38
Several years	20
Rest of work life	10
TOTAL	100%
(N)	(157)
NA	11

Most of the secretaries in the group report that they work a 7 or 8 hour day:

Table III-37

Secretaries: Number of Hours Worked Per Day on Present Job	
Less than 7 hours	9%
7 - 8 hours	88
More than 8 hours	2
TOTAL	99%
(N)	(160)
NA	8

Similarly most of them do not work on Saturday:

Table III-38

Secretaries: Percent Normally Working on Saturday	
Yes	4%
No	96
TOTAL	100%
(N)	(162)
NA	6

A majority of the group reports that the job leaves enough time for the family:

Table III-39

Secretaries: Do You Think Your Job Leaves You Enough Time for Your Family and Other Non-Work Activities?	
Yes	64%
No	36
TOTAL	100%
(N)	(157)
NA	11

Most of the secretaries would not do the same work if they had to live their life over again:

Table III-40

Secretaries: If You Had The Chance
to Start Your Working Life Over
Again, Would You Choose The
Same Kind of Work You
Are Doing Now?

Yes	46%
No	54
TOTAL	100%
(N)	(158)
NA	10

Tables III-41 to III-44 present data on the Dictionary of Occupational Titles Classification of the jobs held by this group:

Table III-41

Secretaries: Job's Relationship to
Data Manipulation

Skill Level Required (high to low)	Percentage of Jobs
0 Synthesizing.....	2%
1 Coordinating.....	8
2 Analyzing.....	2
3 Compiling.....	81
4 Computing.....	1
5 Copying.....	4
6 Comparing.....	1
7-8 No Significant Relationship.....	1

Table III-42

Secretaries: Job's Relationship
to People

<u>Skill Level Required</u>	<u>Percentage of Jobs</u>
0 Mentoring.....	1%
1 Negotiating.....	1
2 Instructing.....	2
3 Supervising.....	--
4 Diverting.....	1
5 Persuading.....	1
6 Speaking-Signaling.....	81
7 Serving	--
8 No Significant Relationship.....	13
TOTAL	100%
(N)	(146)
NA	22

Table III-43

Secretaries: Job's Relationship to Things	
Level of Skill Required (high to low)	Percentage of Jobs
0 Setting up.....	--%
1 Precision work.....	1
2 Operating controlling.....	1
3 Driving-operating.....	--
4 Manipulating.....	--
5 Tending.....	--
6 Feeding-off hearing.....	--
7 Handling.....	--
8 No significant relationship.....	97
TOTAL	99%
(N)	(146)
NA	22

Table III-44

<u>Secretaries: Job Characteristics</u>	
<u>Job Characteristics</u>	<u>Percentage of Jobs</u>
16 Activities of a routine, concrete organized nature.....	88% (146)
17 Repetitive or short cycle operations with set procedure.....	10 (146)
18 Activities require no judgement of problem solving nature.....	8 (146)
19 Activities require precise attainment of set limits, tolerance, standards.....	12 (146)
NA	22

To summarize, this group is not typical of secretaries, They are relatively young, relatively well educated and with plans to move on to other employments in the near future. Because of the location of their jobs in a university the job is somewhat less structured than a similar job in industry.

E. Nurses' Aides

The nurses' aides in this sample of workers are employed by two large metropolitan hospitals, both located in areas servicing ghettos. Since there are few differences between the subjects and the hospitals in the two sub-samples, they have been combined.

Nurses' aides (orderlies when they are men) are found in every unit of the hospital performing a variety of patient-oriented duties. Most require little special skill; they are in the nature of routine support activities for the professional staff (nurses and physicians etc.) which provide patients with much of the daily non-medical care they require. Nurses' aides, under the nurse in charge of the unit, answer patient bells, help patients to eat, wheel patients to other parts of the hospital, give baths and bed pans, clean patients and bedding when necessary, take urine specimens, etc. Many of these activities are moderately to very unpleasant; most are menial. Nurses' aides keep patient units clean, arrange and care for flowers, maintain service areas such as pantries, bathrooms, etc. Some of their other activities are more of a quasi-medical nature: nurses' aides sometimes take temperatures, pulse and respiration, report food intake, and do pre-operative preps.

Workers in this site are unionized. They work a full eight hours a day including one fifteen minute coffee break; they take a half hour to an hour for lunch (time over and above their eight hour shift). Most are required to change shifts and to work weekends, since patient care must go on at all times. There are a very large number of rules and regulations which nurses' aides must learn and observe concerning hospital procedures, working hours, particular tasks, uniforms, excused and unexcused absences and so forth. They are assigned a particular station and tend to remain there.

Training for this position is on-the-job; the program of study is classroom and supervised clinical practice and takes

about six weeks. Workers are then permanently placed, generally on a patient ward where they are under the direct supervision of not only the head nurse, but virtually all other medical staff, including floor nurses, physicians, and other technical personnel. They also have a general supervisor in the Nursing Department to whom they report illnesses, absences, hours, etc. There is no promotional ladder without further training in nursing.

Most nurses' aides are women. About three-quarter of all aides in the United States are women as are 86 percent of our sample:

Table III-45

Nurses' Aides: Sex	
Male	14%
Female	86
TOTAL	100%
(N)	(194)
NA	i

It is also fairly typical for hospitals to want older, more mature workers, particularly if they spend a relatively long time training them. The hospitals seek experienced workers, but it is not a requirement. In this sample, few (5 percent) are under 20 years old; approximately half are between thirty and fifty:

Table III-46

<u>Nurses' Aides: Age</u>	
Less than 20 years old	5%
21 - 30 years old	35
31 - 39 years old	25
40 - 50 years old	24
51 - 65 years old	10
TOTAL	99%
(N)	(154)
NA	41

Although a high school diploma is not a requirement, it is considered desirable. Half the sample are high school graduates and an additional 13 percent have some additional training; the remainder (38 percent) have less than a high school diploma:

Table III-47

<u>Nurses' Aides: Education</u>	
8 years or less	10%
9 - 12 years	77
13 or more	13
TOTAL	100%
(N)	(183)
NA	12

Almost three fifths of the sample are married and an additional quarter have been married and are now divorced or separated:

Table III-48

<u>Nurses' Aides: Marital Status</u>	
Single	19%
Married	59
Divorced	8
Other	15
TOTAL	101%
(N)	(188)
NA	7

Only a fifth have not been married. As a group of the Nurses' Aides tend to have large families as Table III-49 indicates: thirty-five percent have three or more children:

Table III-49

<u>Nurses' Aides: Number of Children</u>	
None	17%
One child	25
Two children	23
Three children	15
Four or more children	20
TOTAL	100%
(N)	(177)

Almost two thirds of the nurses' aides are Protestant; another quarter are Catholic:

Table III-50

<u>Nurses' Aides: Religion</u>	
Catholic	27%
Protestant	63
Jewish	1
Other	10
TOTAL	101%
(N)	(176)
NA	19

The vast majority (84 percent) report that they are Black and an additional 12 percent are Puerto Rican:

Table III-51

<u>Nurses' Aides: Race or Ethnicity</u>	
Black	84%
White	3
Puerto Rican	12
Other	1
TOTAL	100%
(N)	(184)
NA	11

Considering that almost a third of the group are foreign born and 80 percent of those who speak a foreign language, speak Spanish, it is likely that many of those who are Black are from Puerto Rico or other Latin American countries:

Table III-52

Nurses' Aides: Languages Spoken Other than English	
Spanish	80%
Other	20
TOTAL	100%
(N)	(44)
NA	151

However, all speak English since they must speak, read, and write the language fluently in order to be hired for this job. A substantial proportion of the nurses' aides (43 percent) are migrants from the south:

Table III-53

<u>Nurses' Aides: Place of Birth</u>	
<u>United States:</u>	
East Coast	24%
South	43
Central	1
West	1.
<u>Foreign, including</u> <u>Puerto Rico</u>	31
TOTAL	100%
(N)	(175)
NA	20

Virtually all the rest were born in the east where this employment site is located. As indicated in Table III-54, of those who emigrated to the United States from elsewhere, they are about evenly divided between those who arrived as children or youths (42 percent before the age of 21) and those who arrived as adults (47 percent between twenty-one and forty).

Table III-54

Nurses' Aides: Age of Arrival in U.S. if foreign born including Puerto Rico	
Less than 10 years	16%
10 - 21 years	26
22 - 30 years	23
31 - 40 years	24
Over 40 years	9
TOTAL	98%
(N)	(45)
NA	150

For most of these nurses' aides, their work is and has been a full time occupation. Nearly fifty percent (47 percent) have been on their present job for over five years; 20 percent have been in this work for from 10 to 20 years and another 7 percent for over 20 years. Ninety-three percent have held only this one job in the last 2 years:

Table III-55

Nurses' Aides: Number of Different Jobs in Last Two Years	
1 job	93%
2 jobs	5
3 or more	2
TOTAL	100%
(N)	(171)
NA	24

As a group their tenure is not only long, but their work history is also steady. Less than 10 percent, as is seen in Table III-56, have been employed at this job for less than a year:

Table III-56

Nurses' Aide: Length of Time on Present Job	
One year or less	9%
1 - 2 years	18
2 - 3 years	10
3 - 5 years	16
5 - 10 years	20
10 - 20 years	20
More than twenty years	7
TOTAL	100%
(N)	(184)
NA	11

Three quarters of the aides have been employed 22 to 24 months out of the last two years:

Table III-57

Nurses' Aides: Number of Months of Employment in Last 2 Years	
Six months or less	8%
7 - 12 months	11
12 - 24 months	81
TOTAL	100%
(N)	(150)
NA	45

They work a full 7 or 8 hour day:

Table III-58

Nurses' Aides: Number of Hours Worked Per Day on Present Job	
Less than 7 hours	--%
7 - 8 hours	96.
More than 8 hours	4
TOTAL	100%
(N)	(183)
NA	12

Because of the shifts most periodically have to work on Saturdays:

Table III-59

Nurses' Aides: Percent Normally Working on Saturday	
Yes	80%
No	20
TOTAL	100%
(N)	(179)
NA	16

In spite of their full time employment and relatively long hours and the need to work on weekends, three quarters of the workers (who are largely women with families) report that they

have enough time for their family and non-work activities:

Table III-60

Nurses' Aides: "Do You Think Your Job Leaves You Enough Time for Your Family and Other Non-Work Activities?"	
Yes	74%
No	26
TOTAL	100%
(N)	(185)
NA	10

However, 42 percent would not choose this type of work again, had they the chance to make another career choice. Nevertheless the remaining three-fifths would remain as nurses' aides presumably even if they had other options:

Table III-61

Nurses' Aides: "If You Had the Chance to Start Your Working Life Again, Would You Choose the Same Kind of Work You Are Doing Now?"	
Yes	58%
No	42
TOTAL	100%
(N)	(184)
NA	11

For the most part, these workers consider their jobs to be permanent. Half believe they will remain at this job for at least several years and another third for the rest of their lives. Only 5 percent expect to leave the job within a short while:

Table III-62

Nurses' Aides: Length of Time Respondents Expect to Remain at Present Job	
Only a short while	5%
Another year	13
Several years	48
Rest of working life	34
TOTAL	100%
(N)	(168)
NA	27

We have described the work done by the nurses' aides above in a general way. Their tasks normally are varied, but tend to be rather menial and take little in the way of skill. However, they work with people rather than objects and in doing so often get a chance to meet and talk with a wide variety of people while also contributing directly to their welfare. Although their jobs are at the bottom of the professional-semiprofessional hospital hierarchy and hence there are numerous persons directing their activities, the nurses' aides are not always continuously supervised. That depends upon the particular task they are doing and what division of the hospital they

are in.

According to the Dictionary of Occupational Title, classifications, nurses' aide jobs require no significant skills in terms of manipulating either data or things. The manual tasks that are done are unskilled. In relation to people, the skills required are "serving" skills, the lowest of those on this continuum. The DOT also suggests that workers may have to perform under stress and occasionally to make evaluations concerning whether professional help should be called or not. The occasional use of personal judgment, however, is more in the nature of deciding if there is a problem than of dealing with the problem itself. Most activities are carried out by very standardized procedures, but not procedures with rigorous standards of performance quality to be lived up to. Although the activities often change from hour-to-hour and day-to-day, they remain within a limited range.

Table III-63

<u>Nurses' Aide: Job Characteristics (DOT)</u>	
<u>Skill Level Required</u>	
In relation to people.....#7	"Serving" (lowest level skill)
In relation to data.....#8	"no significant relationship)
In relation to things.....#8	"no significant relationship)
<u>Job Characteristics</u>	
No "bureaucratic" traits present	
Other traits specified:	
(Situations requiring dealing with people in performing actual tasks)	
(Situations requiring performing under stress or risk taking conditions)	
(Situations requiring evaluation of information against sensory or judgmental criteria)	

F. Nursing Students

The nursing students in this site are in their last two years of a collegiate nursing program (Table III-64). The program is one of the best-known and highly regarded training programs in the country. While most nursing programs are either three-year diploma or four-year baccalaureate programs, this particular program is one of the new five-year collegiate programs.

Table III-64

<u>Nursing Students: Education</u>	
In addition to at least 2 years liberal arts college,	
Completed 2 of 3 years Nursing Training	52%
Completed 3 of 3 years Nursing Training	48
TOTAL	100%
(N)	(170)
NA	3

The nursing school is part of a major urban teaching hospital, which in turn is affiliated with a major American university. The students are selected from among applicants who have completed at least two years of a liberal arts education and they receive their professional training from hospital and university personnel for three additional years. At this time they receive a Bachelor of Science degree from the university.

Students in the program live in the Nursing Residence Hall located adjacent to the hospital complex. In their first year of training, the students receive many hours of classroom work in basic and applied science and in practical nursing skills. They also do some actual patient care. As the three years progress, students decrease the number of classroom hours and increase the number of patient care hours. Their tuition is reduced accordingly since they are providing skilled manpower for the operation of the hospital.

Student nurses work in virtually every division of the hospital; they rotate their tours of duty every few months so that they spend some time in each of the specialized hospital services. The students work either regular or modified shift hours depending upon the amount of classroom hours they are putting in. While on duty, they must live up to all the rules and regulations of normal hospital personnel and undergo typical supervision; only their tasks are modified based on the amount of skill they have acquired in training.

Thus, while in training, these nursing students' lives are much like those of any full-time hospital nurse, except they spend additional work hours engaged in study and the particular type of nursing they are doing changes several times in the course of the year. Students, like professional nurses, work a full year with a normal annual vacation, work night as well as day shifts, weekends and holidays, and occasionally do extra-duty hours with patients needing private care.

Upon graduation, these students enter a wide variety of careers. Many enter specialized forms of nursing such as

pediatric, psychiatric, etc. nursing. Others continue their education in preparation to teach nursing or do administrative work. Like many nurses, others may marry and take less than full-time positions.

As is quite typical for the nursing profession as a whole, 96 percent of these students are female. There are a small number of men enrolled in the program as well:

Table III-65

Nursing Students: Sex	
Male	4%
Female	96
TOTAL	100%
(N)	(173)
NA	--

Since they are required to have two years of college before entering training, most of the students are over the age of twenty, but under thirty, (91 percent):

Table III-66

Nursing Students: Age	
Less than 20 years old	2%
20 - 29 years old	90
30 - 40 years old	9
TOTAL	101%
(N)	(171)
NA	2

The majority (88 percent) are single, but there are some married and divorced students. Eight percent of the sample have children. (Tables III-67 and III-68):

Table III-67

<u>Nursing Students: Marital Status</u>	
Single	88%
Married	11
Divorced	1
Other	--
TOTAL	100%
(N)	(173)
NA	0

Table III-68

<u>Nursing Students: Number of Children</u>	
None	91%
One child	5
Two children	1
Three children	1
Four or more children	1
TOTAL	99%
(N)	(79)
NA	94

The majority of the students are drawn from the east coast (71 percent) where the school is located. However students also come from other parts of the country and from other countries, including a few from Puerto Rico:

Table III-69

<u>Nursing Students: Place of Birth</u>	
<u>United States:</u>	
East coast	71%
South	4
Central	11
West	4
<u>Foreign, including</u> <u>Puerto Rico</u>	10
TOTAL	100%
(N)	(167)
NA	6

About 21 percent of these "foreign" students have arrived in the United States at or after the age of twenty (Table III-70); we can assume that a number are students who have come specifically for the purposes of this outstanding training:

Table III-70

<u>Nursing Students: Age on Arrival in U.S. if Foreign Born (including Puerto Rico)</u>	
Less than 10 years	53%
10 - 21 years	31
22 - 27 years	16
TOTAL	100%
(N)	(19)
NA	154

Over a third of the students who speak a foreign language speak Spanish (Table III-71); (Table III-72); however, only one percent report themselves to be Puerto Ricans.

Table III-71

<u>Nursing Students: Languages Spoken Other Than English</u>	
Italian	6%
Spanish	37
Other	57
TOTAL	100%
(N)	(86)
NA	87

Therefore, we can assume that for most of the students Spanish and other second languages (primarily French) are not native languages but acquired academically.

The majority of the sample is white, and Protestant:

Table III-72

<u>Nursing Students: Race or Ethnicity</u>	
Black	2%
White	95
Puerto Rican	1
Other	1
TOTAL	99%
(N)	(170)
NA	3

Table III-73

<u>Nursing Students: Religion</u>	
Catholic	38%
Protestant	48
Jew	6
Other	9
TOTAL	101%
(N)	(146)
NA	27

These students will graduate as registered nurses. Most of their activities are related to dealing with people, sometimes in relatively complex ways; however, according to the Dictionary of Occupational Titles, the job of nurse is given an average rating of "7" for the level of skill necessary in dealing with people hierarchy--"serving." The basic require-

ments are a facility for relating to people and being interested in their welfare. Manipulation of data is also a requirement, nursing rated as requiring a higher skill level in this dimension, "3" or "compiling" skills. The job of nurse is rated as having no significant relationship to things in the DOT classification.

Therefore, we may say that the job these students are doing in the hospital is one of a moderate level of skill, primarily requiring skills in dealing with people in a serving relationship. Most nursing jobs are located in hospitals (more than two-thirds of the nurses work in hospitals, nursing homes and other institutions). So located, nurses are generally required to work full eight hour shifts that are demanding in terms of requiring constant activity and attention to detail (Table III-74 also indicates that the attention to detail and precise standards is a characteristic of this job). There are usually numerous rules and regulations relating to attendance, hospital procedure, and job performance that must be adhered to;

Table III-74

<u>Nursing Students: Job Characteristics (DOT)</u>		
<u>Skill Level Required</u>		
from 9 - 13	In relation to data.....#3	"Compiling"
14	In relation to people...#7	"Serving"
15	In relation to things...#8	"No significant relationship"
<u>Job Characteristics</u>		
16	--	
17	--	
18	--	
19	Activities require precise attainment of set present limits, tolerance, standards.	

these procedures relates not only to central patient care tasks but also to the collateral activities engaged in by a nurse (such as record-keeping).

Most of the nurses who graduate from this collegiate program will be able to obtain jobs in specialized types of nursing if they choose to, rather than general floor nursing, which constitutes the largest number of nursing jobs available. They will also be able to move into supervisory positions with a minimal of post-training experience. This sample of nursing students is a highly selected group and is being trained in one of the finest medical facilities in the country. However, whatever its other characteristics, most of the jobs a nurse does have the same characteristics noted above--serving people, compiling records and other forms of data, and close attention to detail and precise specifications.

As we have already stated, the nurses in this sample are either finished with their three years of training or one year short of graduation. Although they are not yet registered, they have worked in a hospital three years. Only 13 percent of the students said that they would not choose this profession again if they had the opportunity to make another decision.

Table III-75

Nursing Students: "If You had a Chance to Start Your Working Life Again, Would You Choose the Same Kind of Work You Are Doing Now?"

Yes	87%
No	13
TOTAL	100%
(N)	(159)
NA	14

G. Office Temporary Workers

The office temporary sample was obtained from three urban office temporary firms. Two of the firms are located in the east. The third is located in the midwest.

Office temporary workers are an unusual group in terms of the kinds of work they do and the ways in which their jobs are structured. In general the majority of office temporary workers are hired for clerical and secretarial positions. In most organizations jobs of this type are relatively structured. Yet the office temporary worker works at those jobs in a fairly irregular manner. The worker may work at a particular firm for only a short period of time. He or she may work less than full time and may work on an irregular schedule. Consequently the job is typically a relatively structured job which the worker may work at in an irregular unstructured fashion.

While the majority of the workers in our sample of office temporaries are clerical and secretarial workers, there are also a small number of somewhat more highly skilled workers included. A number of accountants, computer personnel and other more highly skilled individuals are placed by the firms.

In general office temporary firms rely heavily on lists of individuals. Workers are usually assigned by telephone. When the firm has a call for an individual with particular skills the office will telephone the potential worker and request that the worker report to the job. The worker has a choice of whether to accept the job or not. The individual worker will then report to the job directly. A particular

job may last for a day or it may last up to several months. The worker is paid through the office temporary firm by mail, not directly by the employing firm. Similarly, although the employing firm will make a report on the employee to the office temporary service, the primary allegiance of the workers is with the office temporary firm that pays him and assigns him to jobs.

As indicated in Table III-76 the majority of the workers in the office temporary sample are women although there are a number of men:

Table III-76

Office Temporaries: Sex	
Male	19%
Female	81
TOTAL	100%
(N)	(347)
NA	1

Over half of the group is between 20 and 40 years of age:

Table III-77

<u>Office Temporaries: Age</u>	
Less than 20 years old	7%
20 - 29 years old	41
30 - 39 years old	15
40 - 50 years old	22
51 - 64 years old	11
65 or over	2
TOTAL	98%
(N)	(336)
NA	12

Table III-78 presents data relating to the educational level in the group. They are quite well educated, less than 10% having less than a high school education and almost half having some college:

Table III-78

<u>Office Temporaries: Education</u>	
8 years or less	1%
9 - 11 years	8
12 years	44
13 - 16 years	42
17 +	6
TOTAL	101%
(N)	(345)
NA	3

Reflecting the fact that one of the firms from which data were collected is in the midwest, the place of birth of the workers shows a large proportion of individuals born in the central states:

Table III-79

<u>Office Temporaries:</u>	<u>Place of Birth</u>
<u>United States:</u>	
East coast	42%
South	18
Central	30
West	1
<u>Foreign, including</u> <u>Puerto Rico</u>	9
TOTAL	100%
(N)	(345)
NA	3

Only a small proportion of the sample was born outside of the United States and the majority of these workers arrived in the US prior to age 20:

Office Temporaries: Age of Arrival in U.S. if
Foreign Born (including Puerto Rico)

Less than 1 years	37%
11 - 21 years	30
22 - 30 years	17
31 - 40 years	13
Over 40 years	3
TOTAL	100%
(N)	(30)
NA	318

Over half of the workers either are or have been married:

Table III-81

Office Temporaries:	Marital Status
Single	38%
Married	53
Divorced	6
Other	2
TOTAL	99%
(N)	(341)
NA	7

Similarly 65% of the workers have at least one child:

Table III-82

<u>Office Temporaries:</u>	<u>Number of Children</u>
None	35%
One child	23
Two children	18
Three children	13
<u>Four or more children</u>	<u>11</u>
TOTAL	100%
(N)	(276)
<u>NA</u>	<u>72</u>

Table III-83 presents data relating to the race of the respondents. The majority of the workers are white although there are a significant number of blacks:

Table III-83

<u>Office Temporaries:</u>	<u>Race or Ethnicity</u>
Black	19%
White	78
Puerto Rican	2
<u>Other</u>	<u>1</u>
TOTAL	100%
(N)	(338)
<u>NA</u>	<u>10</u>

Table III-84 presents data relating to the religious affiliation of the workers. The largest proportion of workers are Catholic with smaller numbers of Protestants and Jews:

Table III-84

Office Temporaries:	Religion
Catholic	44%
Protestant	35
Jew	11
Other	10
TOTAL	100%
(N)	(297)
NA	51

Table III-85 presents data on the employment history of the workers. Although they are temporary workers a substantial number of them have been employed almost full time in the past two years:

Table III-85

Office Temporaries: Number of Months of Full
Employment in Last 2 Years

Six months or less	40%
7 - 12 months	22
13 - 18 months	14
19 - 24 months	21
TOTAL	97%
(N)	(301)
NA	47

Similarly Table III-86 indicates that about one quarter of the respondents have had only their current job in the past two years and another quarter have been employed on only one other job in this period:

Table III-86

Office Temporaries: Number of Different Jobs In Last Two Years	
1 job	28%
2 jobs	26
3 or more jobs	46
TOTAL	100%
(N)	(303)
NA	45

Most of the workers have a relatively short affiliation with the office temporary firm employing them:

Table III-87

Office Temporaries: Length of Time on Present Job	
1 month or less	26%
2 - 6 months	40
7 - 12 months	13
12 - 36 months	12
36 - 48 months	2
49 - 60 months	2
61 +	1
TOTAL	96%
(N)	(255)
NA	93

The majority work the standard 7 or 8 hour day:

Table III 88

Office Temporaries: Number of Hours Worked Per Day on Present Job	
Less than 7 hours	13%
7 - 8 hours	83
More than 8 hours	3
TOTAL	99%
(N)	(308)
NA	40

Most do not work on Saturdays and a majority of the workers think that their work leaves them enough time for their families and other activities:

Table III-89

Office Temporaries: Percent Normally Working on Saturday	
Yes	9%
No	91
TOTAL	100%
(N)	(322)
NA	26

L-90

Office Temporaries: "Do you Think Your Job
Leaves You Enough Time for Your Family
and Other Non-Work Activities?"

Yes	77%
No	23
TOTAL	100%
(N)	(313)
NA	35

Most of the workers do not intend to remain at the present job for a long period of time and a majority would not be doing the same thing if they had life to live over again.

Table III-91

Office Temporaries: Length of Time Respondents
Expect to Remain at Present Job

Only a short while	54%
Another year	23
Several years	15
Rest of work life	8
TOTAL	100%
(N)	(286)
NA	62

Table III-92

Office Temporaries: "If You had the Chance to
Start Your Working Life Over Again,
Would You Choose the Same Kind
of Work You Are Doing Now?"

Yes	45%
No	55
TOTAL	100%
(N)	(321)
NA	27

The workers in the sample are employed at a variety of jobs. Tables III-93 to III-96 present the DOT data related to the jobs at which they are working.

To summarize the demographic data on the group of office temporary workers; they are largely female, well educated, relatively young workers for whom the office temporary job is a short term intermediate employment.

Table III-93

Office Temporaries: Job's Relationship to
Data Manipulation (DOT)

0 Synthesizing	3%
1 Coordinating	8
2 Analyzing	4
3 Compiling	56
4 Computing	8
5 Copying	15
6 Comparing	--
7 - 8 No significant relationship	8
TOTAL	102%
(N)	(278)
NA	70

Table III-94

Office Temporaries: Job's Relationship
to People (DOT)

0 Mentoring	1%
1 Negotiating	--
2 Instructing	3
3 Supervising	--
4 Diverting	1
5 Persuading	4
6 Speaking-signaling	28
7 Serving	6
8 No significant relationship	56
TOTAL	99%
(N)	(278)
NA	70

Table III-95

Office Temporaries: Job's Relationship
to Things (DOT)

0 Setting up	--%
1 Precision work	2
2 Operating-controlling	5
3 Driving-operating	--
4 Manipulating	--
5 Tending	--
6 Feeding-offbearing	--
7 Handling	1
8 No significant relationship	91
TOTAL	99%
(N)	(278)
NA	70

Table III-96

<u>Office Temporaries: Job Characteristics (DOT)</u>	
Activities of a routine concrete organized nature	80%
Repetitive or short cycle operations with set procedures	46
Activities require no judgment of problem solving nature	53
Activities require precise attainment of set limits, tolerances, standards	57
(N)	(278)
NA	70

H. Taxi Drivers

The taxi drivers in this site are employed by two garages in New York City. Since both garages are union shops, none of these drivers owns his own cab. Wages are paid to the drivers on the basis of a percentage of the amount shown on the meter. In addition tips are collected independently of the metered fare.

The taxi drivers in the sample, are overwhelmingly male, as is the case in occupation generally:

Table III-97

<u>Taxi Drivers: Sex</u>	
Male	97%
Female	3
TOTAL	100%
(N)	(317)
NA	15

Most of the drivers in the sample work a regular shift and are employed on a full-time basis rather than a part-time basis. The garages in which the sample was obtained employ only full time union drivers. Over half of the drivers in the sample are over 30 years of age with over one quarter over 50 years of age:

Table III-98

<u>Taxi Drivers: Age</u>	
Less than 20 years old	3%
21 - 30 years old	38
31 - 39 years old	11
40 - 50 years old	14
51 - 64 years old	26
65 or over	8
TOTAL	100%
(N)	(314)
NA	18

As a group the drivers are quite well educated. Over 40% of the drivers report having attended some college:

Table III-99

<u>Taxi Drivers: Education</u>	
8 years or less	14%
9 - 11 years	17
12 years	25
13 - 16 years	37
17 and up	7
TOTAL	100%
(N)	(314)
NA	18

Most of the drivers were born on the east coast although almost 20% of the group was born outside the continental United States:

Table III-100

<u>Taxi Drivers: Place of Birth</u>	
<u>United States:</u>	
East coast	69%
South	5
Central	4
West	2
<u>Foreign, including</u> <u>Puerto Rico</u>	19
TOTAL	99%
(N)	(302)
NA	30

Of those drivers who were born outside the United States a majority came to the US before they were 10 years of age:

Table III-101

<u>Taxi Drivers: Age of Arrival in U.S. if Foreign Born (including Puerto Rico)</u>	
Less than 10 years	51%
10 - 21 years	21
22 - 30 years	18
30 - 55 years	10
TOTAL	100%
(N)	(57)
NA	275

Given the substantial number of younger drivers it is not surprising that 38% of the drivers in the sample report that they are single:

Table III-102

<u>Taxi Drivers: Marital Status</u>	
Single	38%
Married	52
Divorced	10
Other	--
TOTAL	100%
(N)	(318)
NA	14

The drivers in this sample are predominantly white (84%). A substantial proportion of the group was Jewish 44% and only 14% Catholic (Table III-103). Many of the taxi drivers speak Italian:

Table III-103

Taxi Drivers: Religion	
Catholic	14%
Protestant	33
Jewish	44
Other	9
TOTAL	100%
(N)	(266)
NA	66

Table III-104

Taxi Drivers: Languages Spoken Other Than English	
Italian	36%
Spanish	20
Other	45
TOTAL	101%
(N)	(169)
NA	163

The taxi industry as a whole has a substantial turnover in drivers. Our sample reflects this relatively high turnover with 22% of the workers having been employed for less than six months in the past two years:

Table III-105

Taxi Drivers: Number of Months of Full Employment in Last 2 Years	
Six months or less	22%
7 - 12 months	15
13 - 24 months	62
TOTAL	99%
(N)	(296)
NA	36

Similarly 46% of the sample reports having held two or more jobs in the past two years:

Table III-106

Taxi Drivers: Number of Different Jobs in Last 2 Years	
1 job	56%
2 jobs	23
3 or more	20
TOTAL	99%
(N)	(301)
NA	31

Almost one third of the sample reports having been employed

Table III-107

Taxi Drivers: Length of Time on Present Job	
Less than 1 year	31%
1 - 2 years	14
2 - 3 years	6
3 - 5 years	8
5 - 10 years	9
10 - 20 years	14
More than 20 years	20
TOTAL	102%
(N)	(308)
NA	24

The relative instability of the group in terms of employment may at least in part be explained by their relative dissatisfaction with the job. Over 70% of the sample reported that they would have pursued some other occupation if they had a chance to start life over again:

Table III-108

Taxi Drivers: "If You had the Chance to Start Your Life Again, Would you Choose the Same Kind of Work You are Doing Now?"	
Yes	29%
No	71
TOTAL	100%
(N)	(295)
NA	37

The job of taxi driver in a city is not typical of low level jobs. On the one hand there is a great deal of autonomy from direct obvious supervision. When the driver is away from the garage there is no supervisor to give instructions or to monitor work. On the other hand there is considerable pressure on the driver to earn fares. A driver with consistent low meter readings at the end of a shift will be put under some pressure to produce.

The skills required on the job are relatively low level. The driving of a taxi is a relatively structured task with little latitude permitted the operator in the mechanics of the task. On the other hand the operator has considerable latitude in deciding about the particular ways in which he will go about his job. He can choose to cruise in a particular location. He can choose to take a particular route to a location.

The official relationship with the customer is quite structured and routine, but on the other hand there is considerable latitude in the extent to which the driver can interact with the customer. The art of choosing a particular approach to a passenger in order to get the largest possible tip is reputed to be one of the characteristics of New York cab drivers. (Table III-109 presents the skill and job characteristic of the job of taxi drivers given by the DOT.)

Table III-109

<u>Taxi Drivers: Job Characteristics (DOT)</u>		
<u>Skill Level Required</u>		
In relation to		
data.....(etc.)	#4	"Computing"
In relation to		
people.....	#6	"Speaking-signaling"
In relation to		
things.....	#3	"Driving-operating"
<u>Job Characteristics</u>		
Situations making preference for routine concrete or organized activities.		
<u>Situations involving preference for repetitive or short cycle operation with set routine.</u>		

The particular group sample of drivers in the sample is to a degree divided into two groups. On the one hand there are a substantial proportion of young relatively well educated drivers who have not been working very long at the job. For many of these drivers the job would seem to be an interim one, easily available without special training. A second group of the drivers could be described as older and less well educated. They have been working as taxi drivers for a relatively long period of time and will, most likely remain at the job for the rest of their working lives.

I. Industrial Workers

1. Textile Printing Workers

The plant from which this group of workers was drawn does the chemical processes involved in the manufacture of printed

plasticized fabric. The firm purchases plain plastic-coated fabric and puts it through a relatively complex series of chemical processes which prints designs in multiple colors on the fabric. It then sells this product to manufacturers of consumer items such as table clothes. The workers in this site, are semi-skilled operatives who feed, watch, and adjust the machinery that passes the fabric through chemical sprays (often several times), dries, and rewinds the bolts for storage and shipment. The workers must keep a close eye on the fabric which runs at a rapid rate through the machinery. They must adjust the dye flow and the mechanisms that determine where the fabric is exposed to the chemicals, and they must regulate the rate at which the fabric is processed. The quality of the output is largely dependent upon the care with which these workers watch and adjust the flow. Entire bolts of fabric may be substandard quality if the flow of dye is irregular or the multiple runs through the dyes do not coincide to create the desired color pattern.

The plant itself is one large room--hot, having unpleasant chemical odors, and noisy from the machinery which runs at high speeds. One or two workers operate each of the several large dyeing machines in the plant. Each bolt of fabric may pass through several of these machines if there is more than one color to be printed on it. Once the fabric is dyed and dried, it is rewound in bolts and stored for future shipping.

For the operators in this plant, there is virtually no upward mobility; the job for most workers is a dead-end. Although management tried to build in a job sequence, the experiment was not successful. There are only a few jobs above that of

se i-skilled operator (those who set up the basic dye process) and few operators move into that skilled position.

Most of the operators are male, indeed none of the production workers are women:

Table III-110

<u>Textile Printing Workers: Sex</u>	
Male	98%
Female	2
TOTAL	100%
(N)	(47)
NA	--

Three-fifths of the workers are under thirty and three-fifths are married or divorced:

Table III-111

<u>Textile Printing Workers: Marital Status</u>	
Single	39%
Married	57
Divorced	4
Other	--
TOTAL	100%
(N)	(47)
NA	--

Table III-112

<u>Textile Printing Workers: Age</u>	
Less than 20 years	17%
20 - 30 years old	41
31 - 40 years old	21
41 - 50 years old	9
51 or over	9
TOTAL	97%
(N)	(47)
NA	--

These workers are not highly educated, half having less than a high school diploma:

Table III-113

<u>Textile Printing Workers: Education</u>	
8 years or less	20%
9 - 11 years	31
12 years	41
13 - 16 years	9
TOTAL	101%
(N)	(46)
NA	1

The vast majority are black or Puerto Rican, being about evenly divided between these two groups:

Table III-114

Textile Printing Workers: Race or Ethnicity	
Black	48%
White	7
Puerto Rican	43
Other	1
TOTAL	100%
(N)	(44)
NA	3

These workers have had fairly stable employment in the last two years. Three-fifths of them have been employed full-time for between one and two years, and an additional quarter between 7 and 12 months. Plant managers say that the work is stable and turnover reasonably low.

2. Electronic Assembly Workers

This factory, located on the west coast, makes precision electronic devices for both commercial and military use. The largest number of workers in the factory are semi-skilled bench assemblers who put the electronic devices together after the metal has been prepared, cut and shaped to the proper dimensions and various small parts prepared for assembly. All workers must adhere to precise specifications, written either as blue-

prints or drawings.

Aluminum and stainless steel are fabricated by sheet metal mechanics to close tolerances. These workers must operate a variety of standard machinery including shears, punch presses, etc. Machinists, who must complete a formal apprenticeship program, set up and operate the machine tools used to cut and shape the metal to the precise dimensions and tolerance necessary for whatever particular device is currently being manufactured. Machinists must follow blueprints and other written specifications very closely. Other workers, such as spot welders and transformer winders, perform specific pre-assembly tasks. The spot welders perform precision electrical welding operations on the sheet metal assemblies and the transformer winders use power operated machines to wind the precise number of copper wire coils that are central parts of the devices being manufactured. These workers also insulate the wire and prepare those wires that will be hooked up to other parts of the device by the assemblers. Again, each worker must perform the operations according to detailed specifications.

The bench assemblers put together the various parts of the electronic components. Using soldering irons and small hand tools and working from drawings or blueprints, the assemblers do a number of different operations in assembling each component. The work at each stage of operations is inspected by special personnel who are responsible for checking the work done against these specifications.

Almost two-thirds of our sample of workers from this plant are women:

Table III-115

Electronic Workers: Sex	
Male	37%
Female	63
TOTAL	100%
(N)	(30)
NA	--

They tend to be young--forty percent of the group are between thirty and forty years old and approximately forty percent under thirty:

Table III-116

Electronic Workers: Age	
22 - 25 years old	20%
26 - 30 years old	19
31 - 40 years old	40
41 - 56 years old	19
TOTAL	98%
(N)	(30)
NA	--

The large majority of them (76%) have completed their high school education and a few have more than high school:

Table III-117

<u>Electronic Workers: Education</u>	
10 - 11 years	23%
12 years	63
<u>13 - 15 years</u>	<u>13</u>
TOTAL	99%
(N)	(30)
NA	--

Most are married or divorced and have two or three children:

Table III-118

<u>Electronic Workers: Marital Status</u>	
Single	3%
Married	83
Divorced	10
<u>Other</u>	<u>3</u>
TOTAL	99%
(N)	(30)
NA	--

Table III-119

<u>Electronic Workers: Number of Children</u>	
None	--%
One child	14
Two children	41
Three children	34
Four or more children	10
TOTAL	99%
(N)	(29)
NA	1

They are American born, white and overwhelmingly Protestant:

Table III-120

<u>Electronic Workers: Place of Birth</u>	
<u>United States:</u>	
East Coast	14%
South	28
Central	14
West	45
<u>Foreign, including</u> <u>Puerto Rico</u>	--
TOTAL	101%
(N)	(29)
NA	1

Table III-121

Electronic Workers: Race or Ethnicity	
Black	--%
White	100
Puerto Rican	--
Other	--
TOTAL	100%
(N)	(29)
NA	1

Table III-122

Electronic Workers: Religion	
Catholic	4%
Protestant	88
Jew	4
Other	4
TOTAL	100%
(N)	(24)
NA	6

These workers have a very stable record of employment. Almost half have been employed by this firm for more than two years (and a quarter from 5 to 10 years); the other half are relatively new workers, employed less than a year:

Table III-123

Electronic Workers: Length of Time on Present Job	
Less than one year	47%
1 - 2 years	6
2 - 3 years	17
3 - 5 years	6
5 - 10 years	23
TOTAL	99%
(N)	(30)
NA	--

Less than 10 percent have held more than one or two jobs during the last two years:

Table III-124

Electronic Workers: Number of Different Jobs in Last Two Years	
1 job	72%
2 jobs	17
3 or more	9
TOTAL	98%
(N)	(29)
NA	1

They work a full eight hour day, but do not have to work on Saturdays:

Table III-125

Electronic Workers: Number of Hours Worked per Day on Present Job	
7 hours	3%
8 hours	93
More than 8 hours	3
TOTAL	99%
(N)	(30)
NA	--

Table III-126

Electronic Workers: Percent Normally Working on Saturday	
Yes	7%
No	93
TOTAL	100%
(N)	(27)
NA	3

The majority (63%) believe that this job leaves them enough time for their families and other non-work activities:

Table III-127

Electronic Workers: "Do You Think Your
Job Leaves You Enough Time for Your
Family and Other Non-Work
Activities?"

Yes	63%
No	37
TOTAL	100%
(N)	(30)
NA	--

And the majority (69%) also expect to remain at this job
for at least several years:

Table III-128

Electronic Workers: Length of Time Respondents
Expect to Remain at Present Job

Only a short time	17%
Another year	14
Several years	66
Rest of work life	3
TOTAL	100%
(N)	(27)
NA	3

However, over half (57%) would not want to take this type
of work again had they the opportunity to do otherwise:

Table III-129

Electronic Workers: "If You had the Chance
to Start Your Working Life Again, Would
You Choose the Same Kind of Work
You are Doing Now?"

Yes	43%
No	57
TOTAL	100%
(N)	(28)
NA	2

According to the Dictionary of Occupational Titles classification of their jobs, (Tables III-130, 131, and 132), the majority of these workers have little to do with data manipulation or people; this is quite clear from the description of the factory offered above.

Table III-130

Electronic Workers: Job's Relationship to Data Manipulation (DOT)	
Skill level required (high to low)	Percentage of Jobs
0 Synthesizing	--
1 Coordinating	8
2 Analyzing	4
3 Compiling	24
4 Computing	--
5 Copying	--
6 Comparing	--
7 - 8 No significant relationship	64
TOTAL	100%
(N)	(25)
NA	5

Table III-131

Electronic Workers: Job's Relationship to People (DOT)	
Skill level required (high to low)	Percentage of Jobs
0 Mentoring	--
1 Negotiating	--
2 Instructing	--
3 Supervising	--
4 Diverting	--
5 Persuading	--
6 Speaking-signaling	4
7 Serving	--
8 No significant relationship	96
TOTAL	100%
(N)	(25)
NA	5

Table III-132

Electronic Workers: Job's Relationship to Things (DOT)	
Level of skill required (high to low)	Percentage of Jobs
0 Setting up	--
1 Precision work	36
2 Operating-controlling	--
3 Driving-operating	--
4 Manipulating	40
5 Tending	4
6 Feeding-offbeating	8
7 Handling	8
8 No significant relationship	4
TOTAL	100%
(N)	(25)
NA	5

The job of a third of the workers may be classified as required skilled precision work with "things" and the rest semi-skilled manipulation, tending, feeding, and handling operations. The jobs done by these workers tend to be concrete and highly organized, repetitive, and require close attention to limits, tolerances, and specifications (Table III-133); however, the jobs also tend to require some independent judgment and problem solving activity.

Table III-133

Electronic Workers: Job Characteristics (DOT)	
<u>Job Characteristic</u>	<u>Percentage of Jobs</u>
Activities of concrete organized nature.....	84%
Repetitive or short cycle operations with set procedure.....	80
Activities require no judgment of problem solving nature.....	32
Activities require precise attainment of set limits, tolerances, standards.....	88
(N)	(25)
NA	5

3. Garment Workers

One of our major industrial sites is a large garment manufacturing factory located in New York City. The firm which cooperated with us in administering our instruments is a large, family controlled (but publicly held) company producing a very well known brand of men's ready-to-wear suits. The company for many years has produced primarily high quality suits, but it also has subsidiaries that produce other specialty items and do custom tailoring. The total work force of the firm, including clerical help, is between 1,500 and 1,800 workers. The blue collar employees are unionized and are paid either by

the piece or the hour, depending upon their particular task. Wages are said to be average for the industry, but the work is unusually steady; unlike much of the apparel industry, layoffs are rare. The workers receive two weeks of paid vacation a year when the factory closes down for a week in both mid-winter and mid-summer.

The largest number of workers employed by the firm are located in a large factory building where the suits are made. The ground floor contains a large cafeteria for the workers; a large cutting room where bolts of fabric are laid out and cut; receiving, shipping and storage areas; and a medium sized room where "sponging" is done (the shrinking of fabric using steam prior to cutting and sewing it).

The sponging department is noisy and extremely hot since the fabric is first steamed and then dried with hot air: It is also very noisy when the machinery is running. The cutting room is clearly the most pleasant part of the factory in which to work from the standpoint of working conditions. The room is filled with long tables on which the bolts of fabric are spread and cut. The light is good since the work done must be extremely accurate. The machinery is not extremely noisy, since there are only small electric hand cutting tools similar in appearance to a circular wood saw. The equipment does not run continuously since much of the cutters' work is unrolling the fabric in multiple layers and skillfully placing the patterns on it.

Downstairs there are also several other departments where suits are finally pressed and inspected.

The pieces of fabric once cut are bundled and sent upstairs to a single large "loft" where the majority of the machine and hand sewing is done. Along the sides of this room are two sets of offices, one for the executive in charge of the factory and the other for the office manager, clerks, and bookkeepers. The loft is very crowded and cluttered; there are rows of sewing machines, pressing equipment, tables where hand cutting is done, and carts and tables heavily laden with pieces of garments ready to be sewn. The room is very noisy because of the sewing machines which are run at a very rapid rate, and very hot because there is no air-conditioning. Most of the workers dress in cotton dresses or light trousers and undershirts even in the winter. There is little opportunity for the workers to talk because they are separated by the equipment and piles of garments and because the room is so noisy; in addition, there is pressure for continual output since they are paid by the piece. They cannot talk when actually working, since the sewing machines are dangerous and they must watch their hands and the material carefully.

The workers arrive early, many before eight in the morning, punch in and begin their work. Breakfast is provided in the cafeteria and snacks for morning and afternoon coffee breaks; hot lunches are served in the cafeteria at the noon break and most workers eat there. Most leave about four or four-thirty in the afternoon, although many stay for overtime work.

Data were collected from 162 of the manual workers, covering almost every department in this factory. Over two-thirds of the workers sampled were men (Table III-134). This is fairly

typical for the menswear industry in New York; in womenswear, women are more heavily represented among manual employees. Men are found in all the jobs in the factory including the machine sewing; men sew, hand cut, machine cut and press. The latter two trades, cutting and pressing, throughout the apparel industry are almost exclusively male jobs.

Table III-134

Garment Workers: Sex	
Male	68%
Female	32
TOTAL	100%
(N)	(153)
NA	9

As is also typical in the apparel industry, the workers in our sample tend to be middle aged. As Table III-135 indicates, almost half the workers are between 30 and 50 years old and another third are over fifty. Only a fifth of the workers in our sample are under thirty.

Table III-135

Garment Workers: Age	
Less than 20 years old	6%
20 - 29 years old	14
30 - 50 years old	47
51 - 64 years old	31
65 or over	2
TOTAL	100%
(N)	(139)
NA	23

The majority have at least some high school education and 7 percent of the sample has had some schooling beyond high school:

Table III-136

Garment Workers: Education	
8 years or less	30%
9 - 12 years	63
13 or more	7
TOTAL	100%
(N)	(148)
NA	14

Virtually all the workers in the sample are married:

Table III-137

<u>Garment Workers: Marital Status</u>	
Single	13%
Married	82
Divorced	5
Other	1
TOTAL	100%
(N)	(146)
NA	16

and they have modest sized families:

Table III-138

<u>Garment Workers: Number of Children</u>	
None	17%
One child	26
Two children	36
Three children	13
Four or more children	8
TOTAL	100%
(N)	(138)
NA	24

The vast majority (71 percent) are Catholics and another fifth Jewish:

Table III-139

<u>Garment Workers: Religion</u>	
Catholic	71%
Protestant	7
Jew	19
Other	3
TOTAL	100%
(N)	(142)
NA	20

The ethnic and nationality composition of this sample of workers is also extremely typical for the menswear industry in New York City. As is evident from Table III-140, 44 percent of the sample are foreign born. (Almost the entire rest of the group was born on the East Coast--many being native New Yorkers).

Table III-140

<u>Garment Workers: Place of Birth</u>	
<u>United States:</u>	
East coast	50%
South	4
Central	1
West	1
<u>Foreign, including</u> <u>Puerto Rico</u>	44
TOTAL	100%
(N)	(145)
NA	17

Since 69 percent of the group reporting a second language say that Italian is their second tongue (Table III-141), we may conclude that the majority of those who are foreign born are Italian and an additional number of those born in the United States are of Italian extraction. Although the garment industry in the United States was largely composed of Jewish immigrants from Europe in the early days of its development, there was a heavy reliance on Italian labor as Jews either died, retired or moved into ownership or managerial roles in the industry. This is particularly true in the menswear industry. Italian tailors still immigrate to the United States to work in the industry and are considered talented and desirable workers. Many of the workers in this factory not sampled were excluded because they did not speak English; Italian was generally their only language:

Table III-141

Garment Workers: Languages Spoken Other Than English	
Italian	69%
Spanish	10
Other	21
TOTAL	100%
(N)	(111)
NA	51

Ten percent of our sample reported Spanish as their additional language and when asked their race or ethnicity, 4 percent of the sample replied Puerto Rican and another 11 percent Black (Table III-142). Although Blacks and Puerto Ricans have moved into jobs in the apparel industry in recent years, they have not done so to as great an extent in menswear as they have in other areas of the industry. Part of the reason for this is the strong hold Italians still have in menswear and the continued flow of skilled and unskilled labor from Italy.

Table III-142

<u>Garment Workers: Race or Ethnicity</u>	
Black	11%
White	85
Puerto Rican	4
Other	1
TOTAL	101%
(N)	(149)
NA	13

This continued immigration is reflected in our sample in that forty percent of our sample who immigrated to the United States did so between the ages of 11 and 21; 14% were over thirty when they arrived in the United States:

Table III-143

<u>Garment Workers: Age of Arrival in U.S. if Foreign Born (including Puerto Rico)</u>	
Less than 10 years old	25%
11 - 21 years	40
22 - 30 years	21
31 - 40 years	11
Over 40 years	3
TOTAL	100%
(N)	(61)
NA	101

The majority of workers in this sample have an extremely stable work history and long ties with this particular company. The company is proud of the length of time its workers stay with the firm. As shown, in Table III-144, a quarter of the workers in our sample have been with this company for over twenty years. An additional third have been in the company between ten and twenty years:

Table III-144

Garment Workers: Length of Time on Present Job	
Less than 12 months	8%
12 - 22 months	4
23 - 36 months	5
36 - 59 months	10
60 - 119 months	18
120 - 240 months	33
<u>241 months or more</u>	<u>24</u>
TOTAL	102%
(N)	(142)
<u>NA</u>	<u>20</u>

(We probably over sampled this element of the work force in the factory, because they had the least language difficulty and for other reasons related to the way workers were sought out and asked to participate in the research.) Part of the

reason for this permanence of employment is the stability of employment characteristic of the company and menswear in general. As mentioned above, lay-offs are relatively rare and the company has been able to guarantee steady employment in an industry characterized by heavy competition, turnover in firms, and seasonal lay-offs. Sixty-one percent of our sample worked a full twenty four months in the last two years, and three-quarters worked full-time for between 12 and 24 months during that period:

Table III-145

Garment Workers: Number of Months of Full Employment in Last 2 Years	
Six months or less	5%
7 - 12 months	18
13 - 24 months	73
TOTAL	100%
(N)	(143)
NA	19

Three quarters of the sample has not changed jobs during the two year period:

Table III-146

Garment Workers: Number of Different Jobs in Last Two Years	
1 job	74%
2 jobs	18
3 jobs or more	9
TOTAL	101%
(N)	(133)
NA	29

Most workers (88 percent) work a full 7 or 8 hour day on a regular basis, and an additional 11 percent tends to work over-time regularly:

Table III-147

Garment Workers: Number of Hours Worked Per Day on Present Job	
Less than 7 hours	1%
7 - 8 hours	88
More than 8 hours	11
TOTAL	100%
(N)	(146)
NA	16

Almost a third of the workers report that they normally work on Saturday as well (Table III-148). Therefore, the sample is not only hard working but tends to put in a substantial amount of time over and above regular hours. Once again, this is a pattern relatively typical in the apparel industry where wages are generally low compared to other blue collar work and where the tasks do not require the coordination of a large number of workers in a team:

Table III-148

Garment Workers: Percent Normally Working on Saturday	
Yes	30%
No	70
TOTAL	100%
(N)	(145)
NA	17

In spite of the long hours, the workers in our sample do not report feeling deprived in terms of time left to spend with their families and at other non-work activities. Table III-149 shows that over two-thirds report that their job leaves them enough time for these activities; just under a third indicate dissatisfaction with this aspect of their job:

Table III-149

Garment Workers: "Do You Think Your Job
Leaves You Enough Time For Your Family
and Other Non-Work Activities?"

Yes	70
No	30
TOTAL	100%
(N)	(145)
NA	17

In spite of this generally positive response to their jobs, the workers in the sample are clearly not entirely satisfied with their work. When asked what they would do if they had the chance to start their working life over, over eighty percent reply they would not choose again the job they now have:

Table III-150

Garment Workers: "If You Had the Chance
to Start Your Working Life Over Again,
Would You Choose the Same Kind of
Work You Are Doing Now?"

Yes	18%
No	82
TOTAL	100%
(N)	(139)
NA	23

Yet, they also seem at least resigned to their jobs. Over half of them report they expect to remain at their jobs for the rest of their work lives, and an additional third expect to keep their present job for at least several more years:

Table III-151

Garment Workers: Length of Time Respondent
Expects to Remain at Present Job

Only a short while	7%
Another year	7
Several years	34
Rest of work life	51
TOTAL	99%
(N)	(137)
NA	25

What exactly are the jobs done by these workers? Most of our sample of workers (38%) are sewing machine operators (Table III-152). These workers sit at machines in the large "loft" described above with piles of garments at their side. The machine sewers generally do only one sewing operation per garment. Some do quite complicated operations such as stitch a pocket into the pants or jacket or set in a sleeve. Most do extremely simple operations, the simplest of which is attaching a paper card to the garment with several long machine stitches, an operation taking about a second per garment. (The cards contain the many "tickets" each operator removes after sewing

on the garment; on the basis of these accumulated "tickets," the worker is paid his piece-wage.) Most of the machine sewing is at the very most a semi-skilled operation. The workers must both concentrate and work at an extremely fast pace.

Table III-152

<u>Garment Workers: Job Categories</u>	
General sewing machine operator	36%
Special sewing machine operator	2
Hand sewer	4
Basting putter	6
Alterations tailor (special order)	4
Presser	11
Machine cutter	11
Hand cutter	9
Fitter; marker	1
Cloth shrinking machine operator (spongers)	2
Shipping & receiving, piece goods clerks	5
Examiner, inspector	2
Foremen	3
Misc.	4
TOTAL	100%
(N)	(161)
NA	1

The tasks of the hand sewers also range from very simple to moderately skilled. They also do one operation on each garment and move rapidly to the next. As the pile of garments at their side diminishes, a floor boy quickly replaces it with another pile.

The most skilled of the manual jobs in the factory is that of cutter. The machine cutters (11% of our sample), work downstairs in relative quiet. They spread the material in many layers on long tables and then take standard patterns and place them on the fabric. This is a task requiring considerable experience and skill; not only must each piece be properly placed in terms of the weave of the fabric, but the cutter must also get as many pieces as he can out of the fabric so placement is very important. The cutter can make or waste company money by how many peices he cuts from the bolt. He also makes or wastes money when he cuts, since a single slip with the cutting machine will ruin many garments at once.

The hand cutters either work on custom garments (which calls for a great deal of skill), or they trim each of the ready-made garments with shears after the machine sewers have stitched the parts together. This is a less skilled activity, about as skilled as the pressers who press the garment between stages in the sewing process. They use large, foot operated steam presses and it is an extremely hot job.

Jobs in the sponging department are also very hot as noted above. The spongers feed bolts of cloth through rollers which direct the material in and out of the steam. Once moistened,

the cloth is then fed into heating chambers and dried. The material is measured for the amount of shrinkage, rewound into bolts, and sent to the cutters next door.

These are the major jobs in the production of ready-to-wear menswear. Several other jobs in the factory are shipping and receiving clerks who load and unload bolts of cloth and finished garments and record the flow of goods. There are also examiners to check the garments for faults before they are shipped.

From the skill codes assigned these garment factory jobs in the Department of Labor's Dictionary of Occupational Titles (DOT, 1965) an idea may be gotten as to the type and level of skills required. Table III-153 shows the distribution of jobs held by this sample of workers according to their relationship to "things." The highest level of skill in relation to "things," according to the DOT, is "setting up" and the least is "handling."

Most of the garment jobs (57%) fall into the third most skilled category, #2 "operating-controlling," as might be anticipated from the above descriptions. Another 20 percent require either "manipulating" or "tending" skills which are lower down in the skill hierarchy.

Table III-153

Garment Workers: Job's Relationship Things (DOT).	
Level of skill required (hi to lo)	Percentage of jobs
0 Setting up	--
1 Precision work	2
2 Operating-controlling	57
3 Driving-operating	--
4 Manipulating	16
5 Tending	4
6 Feeding-offbearing	--
7 Handling	16
8 No significant relationship	4
TOTAL	97%
(N)	(136)
NA	26

Only two percent are considered precision work. While only four percent of these jobs have "no significant relationship" to things, as shown by Tables III-154 and III-155, over 90 percent of these jobs bear no relationship to the manipulation of data or dealing with people. Hence, the description of these jobs as generally semi-skilled manual work would be appropriate. This is a very typical skill distribution for the apparel industry where only a few jobs are either skilled manual jobs or non-manual jobs or nonmanual in nature.

Table III-154

Garment Workers: Job's Relationship
to Data Manipulation (DOT)

Skill level required (hi to low)	Percentage of jobs
0 Synthesizing	--
1 Coordinating	4
2 Analyzing	*
3 Compiling	*
4 Computing	*
5 Copying	*
6 Comparing	4
7-8 No significant relationship	90
TOTAL	98%
(N)	(136)
NA	26

* Less than 1%.

Table III-155

Garment Workers: Job's Relationship to People (DOT)	
Skill level required (hi to low)	Percentage of jobs
0 Monotoring	--
1 Negotiating	--
2 Instructing	--
3 Supervising	3
4 Diverting	--
5 Persuading	--
6 Speaking-signaling	*
7 Serving	*
8 No significant relationship	96
TOTAL	99%
(N)	(136)
NA	26

* Less than 1%.

Table III-156 gives some idea of the degree of routineness and precision required of these tasks. Thirty-nine percent of the jobs are considered "routine" by the DOT codes; thirty-eight percent of these jobs consist of repetitive or short cycle operations with little or no variety in the procedures used; and twenty-one percent of the jobs require no independent judgment

and involve no problem solving activities. Although the majority of the jobs are relatively routine and repetitive, they are also relatively precise, requiring that the worker do the task exactly as specified with few errors. Hence, workers are required to pay close attention (or the garment is not properly assembled) but they exercise little skill or judgment.

Table III-156

<u>Garment Workers: Job Characteristics (DOT)</u>	
<u>Job Characteristic</u>	<u>Percentage of Jobs</u>
16 Activities of routine, concrete organized nature.....	39%
17 Repetitive or short cycle operations with set procedures	38
18 Activities require no judgment of problem solving nature.....	21
19 Activities require pre- cise attainment of set limits, tolerance, standards.....	16
(N)	(162)
NA	27

J. Unemployed Middle Class Workers

This group of unemployed workers is almost two-thirds male:

Table III-157

<u>Unemployed Middle Class Workers: Sex</u>	
Male	63%
Female	37
TOTAL	100%
(N)	(72)
NA	1

The group is relatively well educated. Almost one fifth have had more than four years of college:

Table III-158

<u>Unemployed Middle Class Workers: Education</u>	
8 years or less	3%
9 - 12 years	44
13 - 16 years	35
17 and up	17
TOTAL	99%
(N)	(71)
NA	2

They are young, although not the teenage unemployed so characteristic of large cities; just under half (47 percent) are between twenty and twenty-nine years old. An additional 38 percent are between thirty and fifty. A few (12 percent) are the over-fifty age group for whom jobs are difficult to find:

Table III-159

<u>Unemployed Middle Class Workers: Age</u>	
Less than 20 years old	1%
20 to 29 years old	47
30 to 50 years old	38
<u>51 to 66 years old</u>	<u>12</u>
TOTAL	98%
(N)	(70)
<u>NA</u>	<u>3</u>

Most were born in the United States, on the east coast, but one fifth were born elsewhere:

Table III-160

Unemployed Middle Class Workers: Place of Birth	
<u>United States</u>	
East Coast	64%
South	10
Central	7
West	--
<u>Foreign, including Puerto Rico</u>	19
TOTAL	100%
(N)	(70)
NA	3

Table III-161

Unemployed Middle Class Workers: Age of Arrival in U.S. if Foreign Born (including Puerto Rico)	
less than 13 years	23%
13 - 21 years	23
22 - 29 years	38
30 - 35 years	16
TOTAL	100%
(N)	(13)
NA	60

Over half are single, but most of the rest (41 percent) have children to whose support they are probably contributing:

Table III-162

Unemployed Middle Class Workers: Marital Status	
Single	53%
Married	36
Divorced	11
Other	--
TOTAL	100%
(N)	(73)
NA	--

Table III-163

Unemployed Middle Class Workers: Number of Children	
None	51%
1 child	24
2 children	11
3 children	7
4 or more children	6
TOTAL	99%
(N)	(45)
NA	28

Eighty-three percent of this sample are white:

Table III-164

Unemployed Middle Class Workers: Race or Ethnicity	
Black	10%
White	83
Puerto Rican	6
Other	1
TOTAL	100%
(N)	(72)
NA	1

Although 6 percent say they are Puerto Rican, almost a third who speak a second language speak Spanish so it is likely that a larger percentage than this is Latin American:

Table III-165

Unemployed Middle Class Workers: Languages Spoken Other Than English	
Italian	14%
Spanish	31
Other	54
TOTAL	99%
(N)	(35)
NA	38

A quarter are Protestant and a quarter Jews; the majority of the rest are Catholic:

Table III-166

Unemployed Middle Class Workers:	Religion
Catholic	41%
Protestant	24
Jew	24
Other	10
TOTAL	99%
(N)	(41)
NA	32

Employment History:

Only 10 percent of this sample has been employed six months or less during the last two years. Over two-thirds were employed from 13 to 24 months and the remaining quarter from 7 months to a year:

Table III-167

Unemployed Middle Class Workers:	Number of Months of Full Employment in Last two Years
Six months or less	9%
7 - 12 months	24
13 - 24 months	67
TOTAL	100%
(N)	(65)
NA	8

Only 2 percent were never employed during that two year period and almost half had not changed jobs during that time (one job only). Thirty percent had held two jobs and a fifth three or more:

Table III-168

Unemployed Middle Class Workers: Number of Different Jobs in Last Two Years	
None	2%
1 job	48
2 jobs	30
3 or more jobs	21
TOTAL	101%
(N)	(63)
NA	10

The length of time they had held their last job is extremely interesting: Sixteen percent had held their last job for more than 10 years; another sixteen percent had held that job from three to ten years. Fifty-two percent had held it a year or less:

Table III-169

Unemployed Middle Class Workers: Length of Time on Last Job	
1 year or less	52%
1 to 2 years	16
3 to 8 years	12
8 to 10 years	4
More than 10 years	16
TOTAL	100%
(N)	(29)
NA	44

For most of these workers, these previous jobs had been fulltime: eighty-six percent report they worked 7 or more hours a day at these jobs (only 13 percent had held less than such fulltime employment):

Table III-170

Unemployed Middle Class Workers: Number of Hours Worked on Last Job	
Less than 7 hours	13%
7 - 8 hours	48
More than 8 hours	38
TOTAL	99%
(N)	(29)
NA	44

Table III-171

Unemployed Middle Class Workers: Percent Normally Working on Saturday on Last Job	
Yes	30%
No	70
TOTAL	100%
(N)	(43)
NA	0

More than a third of these unemployed workers (36 percent) had expected that they would hold their last job for the rest of their working life. An additional eight percent felt it was relatively permanent. Forty percent, however, expected they would stay only a short while and another 16 percent expected they would remain only another year.

Table III-172

Unemployed Middle Class Workers: Length of Time Respondents Expected to Remain at Last Job	
Only a short while	40%
Another year	16
Several years	8
Rest of work life	36
TOTAL	100%
(N)	(25)
NA	48

In summary: This is not what we normally consider a "typical" group of unemployed workers in an urban area. They are not very young or very old; they have had a fairly stable work history; and they are reasonably well educated. They do not sound like they expected to be jobless. See below: their jobs were at least moderately stable.

Type of Previous Job

Thirty percent of their previous jobs ranked at the top of the "Data Manipulation" hierarchy (synthesizing skills required) as seen in Table III-173. Another 23 percent had the second ranked skill (Coordinating). Indeed, 88 percent of the jobs had something to do with DATA (presumably the most complex skills) and 82 percent of these ranked in the top half with respect to the skill hierarchy.

Table III-173

Unemployed Middle Class Workers: Last Job's Relationship to Data Manipulation (DOT)	
0 Synthesizing	30%
1 Coordinating	23
2 Analyzing	4
3 Compiling	25
4 Computing	4
5 Copying	2
6 Comparing	--
7 - 8 No significant relationship	14
TOTAL	102%
(N)	(57)
NA	16

Most did not have highly manual jobs (72 percent of the jobs had no significant relationship to things) and those that did were relatively high on the skill hierarchy (setting up, precision work, operating-controlling, and driving-operating). Two thirds of the jobs had some relationship to people; most were in the lower half of the skill hierarchy--a quarter requiring speaking and signalling skills; however, 17 percent required supervising or more skilled performance.

Table III-174

Unemployed Middle Class Workers: Last
Job's Relationship to People (DOT)

Skill level required (hi to low)	Percentage of Jobs
0 Monitoring	2%
1 Negotiating	4
2 Instructing	4
3 Supervising	7
4 Diverting	14
5 Persuading	9
6 Speaking-signaling	26
7 Serving	2
8 No significant relationship	33
TOTAL	101%
(N)	(57)
NA	16

Table III-175

Unemployed Middle Class Workers: Last Job's
Relationship to Things (DOT)

Level Skill Required (hi to low)	Percentage of jobs
0 Setting up	2%
1 Precision work	9
2 Operating-controlling	5
3 Driving-operating	2
4 Manipulating	--
5 Tending	--
6 Feeding-offbearing	--
7 Handling	11
8 No significant relationship	72
TOTAL	101%
(N)	(57)
NA.	16

Table III-176

Unemployed Middle Class Workers: Last Characteristics (DOT)	
Job Characteristic	Percentage of Job
Activities of a routine, concrete organized nature.....	33%
Repetitive or short cycle operation with set pro- cedures.....	14
Activities require no judgment of problem solving nature.....	18
Activities require precise attainment of set limits, tolerance, standards.....	32
(N)	(57)
NA	16

IV. RELIABILITY AND VALIDITY DATA IN EACH SITE

A. Federally Funded Job Training Programs: WIN and CEP

1. Reliability and Validity Data

Data were obtained from both WIN and CEP programs. Since there were some differences in the data obtained in the two sites, the analyses will be presented separately and only combined in those cases where comparable validity data were at hand.

Table IV-1 presents the data relating to the mean scores and the reliability of the instrument in the WIN site.

Table IV-1

Means, Standard Deviations and Reliability
of Tolerance for Bureaucratic Structure
Scores in WIN Site

Mean	103.84
Standard Deviation	11.89
Number	118
Reliability*	.735

* Chronbach's Alpha.

Scores on the Tolerance for Bureaucratic Structure instrument were correlated with certain demographic data obtained in the site. These correlations are presented in Table IV-2. Only the correlation between age and TBS is significant. There is a slight tendency for older trainees to have higher TBS scores than younger trainees.

Table IV-2

Correlations Between Selected Demographic
Variables and Tolerance for Bureaucratic
Structure in WIN Site

Variable	Correlation	Number
Sex (M=1, F=2)	.069	117
Age	.242**	110
Education	-.084	111
Number of children	.057	108
Months employed full time	.128	103
Number of different jobs	.126	118
** p < .01		

The scores on the Tolerance for Bureaucratic Structure Instrument were also correlated with the trainees' progress through the training programs as reported by the counselors. These correlations are presented in Table IV-3. Two of the correlations are significant. There is a slight tendency for individuals high in TBS to be referred to jobs more frequently than those low in Tolerance, and a slight tendency for those low in TBS to refuse jobs when offered.

Table IV-3

Correlations Between Tolerance for Bureaucratic
Structure and Trainees Progress Through
Training Program for WIN Sites

	Correlation with TBS	Number
Did trainee complete orientation program (y=2, n=1)	.020	118
Still enrolled in training program (y=2, n=1)	.089	118
Was the trainee referred to any jobs (y=2, n=1)	.152*	118
Did the trainee refuse to accept any jobs (y=2, n=1)	-.162*	118
Is the trainee currently employed	.137	118
* $p < .05$		

The supervisor of the WIN trainees were also asked to rate the trainees on a number of personal characteristics which should relate to Tolerance for Bureaucratic Structure. These are presented in Table IV-4. Four of the five correlations are significant. There is a slight tendency for supervisors to give trainees high in TBS high ratings for attendance, promptness, attention to routine tasks and in the development of long term goals.

Table IV-4

Correlations Between Tolerance for
Bureaucratic Structure and
Ratings at WIN Sites

Supervisor Rating	Correlation with TBS	Number
Regular attendance	.172*	118
Promptness	.221* *	118
Ability to follow rules and regulations	.150	118
Ability to take orders	.072	118
Ability to stay with routine tasks	.162*	118
Ability to think in terms of long term goals	.158*	118
* $p < .05$		
** $p < .01$		

In addition to supervisory ratings, other test scores were obtained on a small subset of the trainees. The scores in these other tests were correlated with the scores on the TBS instrument.

Table IV-5 presents the correlations between the scores on the General Aptitude Test Battery (GATB) and TBS. There is a significant positive correlation between the TBS scores and those on the GATB (General and Numeric) subtests.

Table IV-5

Means and Standard Deviations of GATB Scores
And Correlation with Tolerance For
Bureaucratic Structure
(New Jersey Site)

	GATB G	GATB V	GATB N	TBS
GATB G	1.00	.853**	.839**	.230
GATB V		1.00	.702**	.181
GATB N			1.00	.259*
TBS				1.00
Mean	81.76	83.30	82.03	
Standard Deviation	14.22	14.30	17.88	
(N)	(51)	(51)	(51)	

* $p < .05$

** $p < .01$

Table IV-6 presents the correlations between the TBS score and the scores on the Metropolitan Reading Achievement Tests. The correlations between each achievement measure and the TBS scores are significant. It should be noted, however, that the scores on both the GATB and the Metropolitan are generally low in this group.

Table IV-6

Mean Grade Level, Standard Deviations
and Correlations Among The
Metropolitan Achievement
Tests and the Tolerance
for Bureaucratic
Structure* (New
Jersey Site)

	Word Knowledge	Reading	Compu- tation	Problem Solving	TBS
Work Knowledge	1.000	.919**	.758**	.789**	.505**
Reading		1.000	.783**	.707**	.402*
Computation			1.000	.831**	.355*
Problem Solving				1.000	.434**
TBS					1.000
Mean	7.20	6.99	5.98	6.40	
Standard Deviation	2.31	2.66	1.87	2.37	
(n)	(32)	(32)	(32)	(32)	

* $p < .05$

** $p < .01$

Table IV-7 presents the correlations between TBS and the trainees scores on the Kuder Preference Record. None of the correlations is significant.

Table IV-7

Means and Standard Deviation of Kuder Preference
Record Scales and Correlations with Tolerance
for Bureaucratic Structure
(New Jersey Site)

Kuder Scales	Mean	S.D.	n	Correlation with TBS
Outdoor	32.46	25.36	27	+.141
Mechanical	38.18	19.41	27	-.229
Computational	71.59	22.94	27	-.008
Scientific	49.37	30.17	27	-.076
Persuasive	51.14	24.61	27	-.097
Artistic	52.40	25.57	27	.118
Literary	44.57	28.78	27	.287
Musical	43.23	22.35	27	-.015
Social Services	63.18	26.36	27	-.127
Clerical	70.07	23.59	27	.063

In the CEP training sites, the instrument was administered to over 300 trainees. Table IV-8 presents the mean scores, the standard deviation and the reliability of the TBS instrument in the CEP sites.

Table IV-8

Means, Standard Deviation and Reliability
of Tolerance for Bureaucratic
Structure in CEP Site

Mean	99.10
Standard Deviation	14.55
Number	279
Reliability*	.742
* Coefficient Alpha	

Table IV-9 presents data relating scores on the TBS instrument to selected demographic variables. There are two significant correlations in the site. There is a slight tendency for older trainees to be higher in Tolerance for Bureaucratic Structure to report having been employed for more months in the past two years. This relationship between TBS and months employed is present even when the age of the trainees is controlled ($r_{12.3} = .193$; $p < .05$).

Table IV-9

Correlations Between Selected Demographic
Variables and Tolerance
for Bureaucratic
in CEP Site

Variable	Correlation	Number
Sex (M=1, F=2)	.037	263
Age	.132*	261
Education	-.017	265
Number of children	-.033	279
Months employed full time	.218**	210
Number of different jobs	.016	176

* $p < .05$

** $p < .01$

Table IV-10 presents the correlations between TBS scores and the progress of the trainee through the training program. One of the correlations is significant. There is a slight tendency for supervisors to report that trainees low in Tolerance had refused accept jobs that were offered.

Table IV-10

Correlations Between Tolerance for Bureaucratic
Structure and Trainee's Progress Through
Training Program for CEP Sites

Question	Correlation with TBS	Number
Did trainee complete orientation program? (y=2, n=1)	.071	147
Still enrolled in training program (y=2, n=1)	.011	147
Was the trainee referred to any jobs (y=2, n=1)	.131	147
Did the trainee refuse to accept any jobs (y=2, n=1)	-.214*	147
Is the trainee currently employed (y=2, n=1)	.072	147

* $p < .01$

Table IV-11 presents the correlations between TBS and supervisory ratings of trainee performance. None of the correlations is significant at the .05 level.

Because comparable supervisory rating data were obtained in both the CEP and WIN sites, they were combined and correlated with the TBS of the trainees.

Table IV-11

Correlation Between Tolerance for Bureaucratic
Structure and Supervising Ratings
at CEP Sites

Supervisory Rating	Correlation with TBS	Number
Regular Attendance	.084	147
Promptness	.072	147
Ability to follow rules and regulations	.093	147
Ability to take orders	.073	147
Ability to stay with routine tasks	.098	147
Ability to think in terms of long term goals	.080	147

Table IV-12 presents the correlations between TBS and supervisory ratings. Each of the six correlations is significant. There seems to be a slight general tendency for supervisors' ratings to be positively related to TBS.

The data relating to progress through the training programs was not combined between the WIN and the CEP sites because the specific nature of the programs differed. In some programs, placement on a job was more likely to be a result of local economic conditions than performance in the program. In addition, the follow-up of the WIN and the CEP programs occurred after

different periods of time, hence the trainees' actual progress through the different programs was not at comparable stages.

Table IV-12

Correlations Between Tolerance for Bureaucratic
Structure and Ratings at
CEP and WIN Sites

Supervisor Rating	Correlation with TBS	Number
Regular Attendance	.114*	265
Promptness	.129*	265
Ability to follow rules and regulations	.115*	265
Ability to take orders	.110 *	265
Ability to stay with routine tasks	.137*	265
Ability to think in terms of long term goals	.118*	265

* $p < .05$

2. Test-Retest Stability of the Instrument

In order to establish the stability of Tolerance for Bureaucratic Structure and to add to information on the reliability of the instrument, follow-up data on a segment of the trainees in the WIN and the CEP programs was obtained.

At that time of the first testing, respondents in the WIN and CEP programs were asked to provide their names and addresses. Subsequently, a second copy of the questionnaire was mailed to them with instructions to fill it out and return it directly

to the researchers by mail. A total of over 400 questionnaires were mailed out. One hundred twenty usable questionnaires were returned. As anticipated with a geographically mobile population of this type, a substantial number of remaining questionnaires were returned to us undelivered.

The time of administration of the first test varied from sub-group to sub-group, but the shortest interval between initial testing and subsequent testing was 14 months; in some cases the interval was as long as 20 months. In the intervening period, the respondents had been enrolled in the job training programs. The goals of those programs include both developing specific skills and changing the work attitudes of the trainees in order to improve their job holding capacity. The data relating to the stability of the instrument are presented in Table IV-13.

Table IV-13

Test Retest Stability of Tolerance for Bureaucratic Structure Instrument		
	First Testing	Second Testing
Mean	102.86	103.35
Standard Deviation	13.72	13.49
N	120	120
Correlation between first and second testing	reposition .634	

Note that the mean scores on the instrument do not seem to have changed appreciably with time. In addition there is a fair degree of stability ($r=.63$) to the individual responses. It should be noted that the conditions of administration of the two testings varied quite considerably. The first administration of the instrument was done at the training center under the supervision of the staff. The instrument was usually administered in conjunction with other instruments at entry into the programs. The second administration by mail--answered at home and the results mailed directly to us. In the case of the second administration the ex-trainees were assured that the data would be used only for the purposes of research.

B. Bank Clerical Workers

Data on the bank clerical workers were obtained in two waves. The first wave involved the testing of a small group of recent employees while the second involved the testing of workers who had been on the job for a period of time. The instruments were given to the workers by their supervisors but were mailed directly to the personnel research department of the bank by the individual worker. In some cases the supervisor of the worker filled out a job description instrument on the jobs that were held by the worker.

The data on each of the waves will be presented separately and then will be combined for analysis of the relationship between Tolerance for Bureaucratic Structure and the supervisory ratings.

Table IV-14 presents the means and reliability of the TBS instrument in the first group tested. As one would expect of a structured job the workers were relatively high in their tolerance for structure.

Table IV-14

Mean, Standard Deviation and Reliability of
Tolerance for Bureaucratic Structure
in Bank Clerical Site (Wave I)

Mean	99.55
Standard Deviation	14.98
Number	61
Reliability*	.796

* Chronbach's Alpha

Table IV-15 presents data regarding the correlations between TBS and the demographic data that were obtained by the bank. Because the personnel research section of the bank obtained this data we were able to obtain only partial demographic data. None of the correlations is significant.

Table IV-15

Correlations Between Selected Demographic
Variables and Tolerance for Bureaucratic
Structure in Bank Clerk Site (Wave I)

Variable	Correlation	N
Age	-.162	58
Education	-.153	57
Number of children	.100	58

The supervisors of the clerks tested were asked to fill out an evaluation sheet as a part of the banks ongoing research program. The correlations between the supervisory ratings and TBS are presented in Table IV-16.

Ratings of 14 characteristics were presented. Eight of the 14 correlations between TBS and ratings were significant, two of them at the .01 level. It is interesting to note that the highest correlations with TBS were between the supervisors ratings of attendance, which is a relatively objective measurement, and relations with superiors which related directly to the Tolerance for Structure of the worker.

As a part of the personnel selection procedures at the bank a number of tests are administered to prospective employees at the time of hiring. The scores on these tests were related to TBS.

Table IV-16

Correlations Between Tolerance for Bureaucratic
Structure and Supervisory Ratings at
Bank Clerk Site (Wave I)

Supervisory Rating	Correlation with TBS	N
Effort	.222*	61
Initiative and responsibility	.272*	61
Promotion potential	.206	61
Accuracy	.288*	61
Speed	.036	61
Job knowledge	.163	61
Learning ability	.110	61
Emotional stability	.085	61
Dependability	.261*	61
Relations with co-workers	.294*	61
Relations with superiors	.365**	61
Punctuality	.165	61
Attendance	.342**	61
Appearance and grooming	.178	61
Attitude toward rules and regulations	.233*	61

* $p < .05$

** $p < .01$

Table IV-17 presents the relevant correlations.

Note that most of the correlations are negative. The only significant correlation is between scores on the math test and TBS. There was an insignificant positive correlation between the TBS score and scores on a production typing test. This production typing test is essentially a work sample requiring the typist to copy a number of order forms which have been written in longhand. The typist is scored on the number she completes in a specified period of time.

Table IV-17

Correlations Between Scores on Selection
Tests and Tolerance for Bureaucratic
Structure in Bank Clerk Site
(Wave I)

Test	Correlation with TBS	N
General typing test	-.215	40
Production typing test	.231	20
Arithmetic test	-.265*	70
Language test	-.086	75
Steno test	-.122	45

* $p < .05$

Table IV-18 presents the mean score and the reliability of the TBS instrument in the second wave of testing. Note that the mean score in this second wave is roughly comparable to the mean score in the first testing.

Table IV-18

Mean, Standard Deviation and Reliability
of Tolerance for Bureaucratic
Structure in Bank Clerical
Site (Wave II)

Mean	99.44
Standard Deviation	15.78
N	144
Reliability*	.816

* Chronbach's Alpha

For the second wave of testing, information relating to education was obtained and correlated with TBS. Table IV-19 presents the correlations.

Table IV-19

Correlation Between Education and
Tolerance for Bureaucratic
Structure in Bank Clerk
Site (Wave II)

Variable	Correlation	N
Education	-.149*	144

* $p < .05$

There was a very slight tendency for the better educated workers to be somewhat less tolerant of structure than the less well educated workers.

The data relating supervisory ratings to TBS are presented in Table IV-20. Three of the correlations are significant.

Table IV-20
Correlations Between Tolerance for Bureaucratic
Structure and Supervisory Ratings at Bank
Clerk Site (Wave II)

Supervisor Rating	Correlation with TBS	N
Effort	.086	144
Initiative	.079	144
Promotion potential	.181*	144
Accuracy	.015	144
Speed	.000	144
Job knowledge	.090	144
Learning ability	-.076	144
Emotional stability	.112	144
Relations with co-workers	.175*	144
Relations with superiors	.216**	144
Punctuality	.114	144
Attendance	.005	144
Appearance	.098	144
Rules and regulations	.125	144

* $p < .05$

** $p < .01$

There was a slight tendency for workers high in TBS to be rated higher in promotion potential, relations with co-workers and relations with superiors. The correlations are smaller than the correlations obtained on the first wave.

Table IV-21 presents the correlations between TBS and the scores obtained on the selection tests used within the bank. Only one of the correlations is significant. As was the case in the group tested in wave I high TBS scores were slightly associated with lower scores on the arithmetic test.

Table IV-21

Correlations Between Scores on Selection
Tests and Tolerance for Bureaucratic
Structure in Bank Clerk Site
(Wave II)

Test	Correlation with TBS	N
General typing test	.004	23
Arithmetic test	-.265*	70
Language test	-.085	74

* $p < .05$

Since comparable supervisory ratings were obtained on both of the groups the data from the two were combined and correlated with TBS. Table IV-22 presents the correlations between TBS and the supervisory ratings for the total group.

Table IV-22

Correlations Between Tolerance for Bureaucratic
Structure and Supervisory Ratings at Bank
Clerk Site Combining Wave I and Wave II

Supervisory Rating	Correlation with TBS	N
Effort	.124*	205
Initiative and responsibility	.114*	205
Promotion potential	.184**	205
Accuracy	.096	205
Speed	.009	205
Job knowledge	.113*	205
Learning ability	-.013	205
Emotional stability	.105	205
Relations with co-workers	.210**	205
Relations with superiors	.260*	205
Punctuality	.129*	205
Attendance	.107	205
Appearance and grooming	.122*	205
Attitude toward rules and regulations	.160**	205

* $p < .05$

** $p < .01$

C. Clerical Training Programs

1. Secretarial and Clerical Training Site

Through the cooperation of the personnel e training program, the Tolerance for Bureaucratic Structure Instrument was administered to all training program applicants as a part of the general testing program. Included in this test battery were several achievement and aptitude tests. Applicants were admitted to the program based on their aptitude scores and interviews. This screening process is relatively complex since the applicant must be interviewed and deemed acceptable by both the training site and the company that will ultimately hire the applicant. TBS scores of the applicants were returned immediately to the researchers so that in no case was the TBS instrument used as a screening device, although the applicants were not aware of this.

Table IV-23 presents the mean score and the reliability of the instrument as it was administered to a number of applicants. Note that the mean score is relatively high as contrasted with other groups.

Table IV-23

Mean, Standard Deviation and Reliability of
Tolerance for Bureaucratic Structure in
Clerk Training Site

Mean	102.11
Standard Deviation	17.95
Reliability*	.835

Although 173 applicants were tested, 47 were actually admitted to the program. Of these 47 applicants accepted into the program, 21 were actually placed on jobs. The reasons for the drop-out varied quite considerably. In some cases, the trainees were dismissed for poor performance; in other cases termination was voluntary.

Table IV-24 presents the mean scores of those who completed the program and were placed in jobs compared to the mean of those who either did not complete the program or were not placed in jobs.

Table IV-24

Means and standard Deviations of Tolerance for Bureaucratic Structure Scores of Those Trainees Retained and those Dropped at Clerk Training Site		
	Retained	Dropped
Mean	107.86	101.85
Standard Deviation	14.86	16.34
Number	21	26
$t = 1.32^*$		

* $p < .10$

The mean TBS score is higher in the group that achieved placement. The difference in scores is, however, not significant at the .05 level, although it is significant at the .10 level.

The applicants scores on the TBS instrument were also correlated with their scores on the aptitude and achievement tests used for actual placement at the site. Table IV-25 pre-

sents these correlations. Data on all subjects was not released by the training site; hence, the table is based on the scores of applicants in one month, sixty-one in all.

Table IV-25

Correlations Between Aptitude Tests and
Tolerance for Bureaucratic Structure
at Clerk Training Site

Test	Correlation with TBS	Number
Gates Reading	-.265*	61
California Reading Test	-.070	61
Oral Directions Test	-.157	61
Wide Range Ability Test	-.154	61

* $p < .05$

Only one of the correlations is significant. There is a small negative relationship between scores on the Gates Reading Test and scores on the TBS instrument. Although not significant, each of the other correlations is also negative.

2. Urban Bank Training Program

The bank clerical training program provided data on a total of 126 trainees. Each of the trainees was tested at the time of entry into the program. Table IV-26 presents data relating to the mean score and the reliability of the TBS instrument for the trainees.

Table IV-26

Mean, Standard Deviation and Reliability
of Tolerance for Bureaucratic
Structure at Urban Bank
Training Site

Mean	5.09
Standard Deviation	16.38
Number	126
Reliability*	.799

* Coefficient Alpha.

The data at the training program were obtained at the beginning of 1971. Approximately one year after the trainees were introduced to the training program an attempt was made to locate those individuals who had completed the training program and who were still employed at the bank. Data on the mean TBS scores of those who were still employed at the bank and those who had terminated employment are presented in Table IV-27. In the period in question there were no layoffs so that termination was the result of either unsatisfactory performance or else voluntary on the part of the employees.

Table IV-27

Mean Scores on Tolerance for Bureaucratic
Structure Instrument for Those
Terminated and Those Retained
in Urban Bank Training Site

	Group that remained on job	Group that left job
Mean	50.44	45.74
Standard Deviation	16.14	17.93
Number	63	63
$t = 1.72^*$		

* $p < .05$

There is a small but significant difference in the scores of the two groups. There was a slight tendency for those who stayed on the job to have somewhat higher TBS scores than those who left the job.

In addition to obtaining data relating to retention on the job data were obtained regarding other test scores. These test scores were correlated with the scores on the TBS instrument. Table IV-28 presents the correlation.

Note that the correlations are mixed. None of the correlations is significant.

Table IV-28

Correlations Between Aptitude Tests and
Tolerance for Bureaucratic Structure
at an Urban Bank Training Site

Test	Correlations with TBS	Number
Perceptual skills	.149	79
Able vocabulary	-.054	79
Number coding	-.070	79
Letter coding	-.011	79
Spelling	.024	79
Arithmetic	-.054	79
Gates reading comprehension	-.049	79

D. University Secretaries

The data obtained from each of the separate sites were combined for analysis. The data were obtained by distributing the questionnaires to the secretaries at their place of work in the morning and picking them up in the afternoon. The secretaries who filled out the questionnaire were not supervised while it was being filled out. Each was assured of complete anonymity in the study and was not required to sign their name to the questionnaire, although in some cases they did. No direct data on the response rate to the questionnaire could be obtained since the questionnaires were distributed in a face to face setting and the secretary could refuse to accept one. However among those secretaries who accepted the questionnaire only a small fraction did not return it.

Because the questionnaire was self administered there were many cases in which the respondent did not choose to answer a particular question. Consequently the number responding to many of the questions varied quite considerably.

Table IV-29 presents the mean scores and the reliability estimates of the instrument among the college secretaries. Note that the mean score is lower than the mean scores in the other sites we have discussed so far. Given the fact that as a clerical job the job of college secretary is relatively unstructured the relatively low mean score is not surprising.

Table IV-29

Mean, Standard Deviation and Reliability
of Tolerance for Bureaucratic
Structure in College
Secretary Sites

Mean	87.82
Standard Deviation	17.43
Number	168
Reliability*	.862

* Coefficient Alpha

Table IV-30 presents the correlations between scores on the TBS instrument and selected demographic variables. Included among the variables are questions relating to the work history and the work intentions of the secretaries.

Table IV-30

Correlation Between Selected Demographic
Variable and Tolerance for Bureaucratic
Structure in College Secretary Sites

Variable	Correlation	Number
Sex ($\chi^2 = 1$)	.034	166
Age	.375**	162
Education	-.316**	164
Number of children	.174**	139
Months employed full time	-.186*	160
Number of different jobs	.097	150
Length of time on this job	-.088	157
How long will they remain	.265**	157
Would you do it again ($y=2, n=1$)	.294**	158

* $p < .05$

** $p < .01$

Consistent with previously reported findings there is a positive correlation between age and TBS. In interpreting the negative correlation between education and TBS one should bear in mind that this group of secretaries is on the average quite well educated. The positive correlation between number of children and TBS is consistent with previously reported findings. With respect to work history variables there is a low negative correlation between the number of months employed full time in the past two years and TBS. This is contrary to expectations and findings with other samples. Nevertheless, this correlation is of such a magnitude that it indicates if there is such a

relationship it is a very slight one.

Those high in TBS tend to report that they will plan to remain on the job for longer periods of time and that if they had to live their lives over again they would be doing the same thing.

Since we are unable to obtain data reflecting on the level of performance of these workers on the job we attempted to use a measure of job satisfaction as an index of the validity of our instrument. We have used the Brayfield Scale.

Table IV-31 presents the correlations between the scores on the Brayfield job satisfaction scale and selected demographic variables. The more satisfied workers tend to be older, less well educated and have more children than the less satisfied workers. They have been on the job for a longer period of time and intend to remain on the job for a longer period of time and willing to do the same thing if they had their lives to live over again.

There is a moderate positive correlation ($r = .39$) between Tolerance for Bureaucratic Structure and Job Satisfaction in this site. The happiest workers seem to be those with the higher degree of Tolerance for Structure. This positive correlation remains even when the relationships between each of the demographic variables is partialled out one at a time. For example, the demographic variable with the largest correlation with both TBS and Satisfaction and controlling for age is .287 ($p < .01$). Each of the other partial correlations between TBS and Satisfaction controlling for demographic variables is larger.

Therefore, there is a slight but significant tendency for TBS to be related to job satisfaction in this site and the relationship between the two cannot be accounted for on the basis of any of the possible third variables on which data was collected.

Table IV-31

Correlation Between Job Satisfaction
and Certain Demographic Variables
and Tolerance for Structure

Variable	Correlation with Job Satisfaction	Number
Sex	.030	154
Age	.375**	150
Education	-.412**	153
Number of children	.300**	127
Months employed full time	-.075	148
Number of different jobs	-.053	138
Length of time on job	.172	147
How long will they remain	.372**	146
Would you do it again (y=2, n=1)	.408**	149
TBS	.387**	156

* $p < .05$

** $p < .01$

E. Nurses' Aides

The data on nurses' aides were obtained from two hospitals in New York City. For purposes of analysis, the data are combined. Questionnaires were distributed through the supervisors of the nurses' aides to be filled out on the job. The supervisor was also responsible for the collection of the questionnaires. The aides were assured anonymity since they did not have to sign their name to the questionnaire and since appropriate steps were taken to prevent the supervisor from finding out indirectly which questionnaire was filled out by particular aides. No estimate of the response rate is possible since administration was in the hands of the hospital staff. In both hospitals the administrators claimed that each of the aides to whom a questionnaire was delivered responded.

Table IV-32 presents the data with respect to the mean scores and the reliability of the instrument.

Table IV-32

Mean, Standard Deviation and Reliability of Tolerance for Bureaucratic Structure in Nurses' Aides Site	
Mean	99.56
Standard Deviation	12.73
Number	195
Reliability*	.717

* Coefficient Alpha.

Note that the mean score is relatively high as contrasted with other groups tested. This high mean score is not unexpected since the job of nurses' aide is one of the more structured jobs among those we examined.

Table IV-33 presents the correlations between TBS and selected demographic variables. Included among the demographic variables are questions relating to the work history and satisfaction of the worker.

Table IV-33

Correlations Between Tolerance for Bureaucratic
Structure and Select Demographic Variable
at Nurses' Aide Site

Variable	Correlation with TBS	Number
Sex (m= 1, f= 2)	.084	194
Age	.128*	154
Education	-.209**	183
Number of children	.127**	177
Months full time	-.013	150
Number of different jobs	-.184	171
Length of time of job	-.100	184
How long intend remaining on job	.242**	168
Would you do it again (y=2, n=1)	.180**	184

* $p < .05$

** $p < .01$

As seen in Table IV-33 there is a positive correlation between age and TBS. There is a slight tendency for older aides to be more tolerant of structure than younger aides.

There is negative correlation between education and TBS. The more educated aides tend to be less tolerant of structure. There is a positive correlation between the number of children and TBS. The correlation between the number of jobs that the aides has held in the past two years and TBS is negative as expected. Similarly there is a slight tendency for aides higher in tolerance to report they intend to remain on this job longer than aides low in tolerance and that they would do the same job if they lived life over.

In the Nurses' Aides site it was not possible to obtain performance ratings for the workers. Consequently the relationship between TBS and job satisfaction was examined. Job satisfaction was measured using the Brayfield scale.

There is a positive correlation between TBS and Job Satisfaction. The more tolerant workers tend to be the happier workers. Even with the relationships between TBS, Job Satisfaction and other demographic variables controlled by computing partial correlations, the relationship between TBS and Job Satisfaction still remains. For example, taking the variable with the highest correlation with TBS and Satisfaction, education, and computing a partial correlation with TBS and Satisfaction controlling for education, the correlation is .334 (p less than .01). Therefore, there seems to be a relationship between Tolerance for Bureaucratic Structure and Satisfaction which cannot be accounted for on the basis of relationships with the

demographic data that we have collected. In this relatively structured work situation the more tolerant workers report that they are more satisfied with their jobs.

Table III-34 presents the correlations of the Satisfaction measure with the demographic variables and with the work history variables.

Table IV-34

Correlations Between Job Satisfaction Selected
Demographic Variables and Tolerance for
Bureaucratic Structure in Nurses'
Aide Sites

Variable	Correlation with Job Satisfaction	Number
Sex	-.024	185
Age	.084	149
Education	-.213**	174
Number of children	.097	169
Months full time	.069	145
Number of different jobs	-.010	163
Length of time on job	-.044	176
How long intend remaining on job	.245**	162
Would you do it again	.227**	175
TBS	.364**	186

* $p < .05$

** $p < .01$

There is a slight tendency for the less well educated aides to be more satisfied with their jobs. The more highly satisfied aides also intended to remain on the job for a longer period of time and tended to say they would do the same thing in life if

they had it to live over.

F. Nursing Students

The nursing students in our sample are juniors and graduating seniors from a single collegiate nursing school. Students in their last two years of training were asked to fill out the questionnaire while attending a required class. Students were assured complete anonymity and they were told not to sign their name to the instrument. The questionnaires were collected in a manner such that a particular student's responses could not be identified. Since the instrument was administered in a classroom situation, control could not be exercised over the particular responses to each question and consequently the number of responses differs from question to question.

While the nursing student site is a training program the students are required, as a part of their training to work in the hospital under supervision. Consequently the program has some of the aspects of an actual work setting.

Table IV-35 presents the mean scores and the reliability of the TBS instrument. Note that the mean score in this group is quite low relative to other groups tested.

The group of nursing students is homogeneous with respect to most of the demographic variables. They have comparable amounts of education, are of similar ages, etc. Consequently the relationship between the scores on the TBS instrument and the demographic variables may not be as meaningful as in other sites.

Table IV-35

Mean, Standard Deviation and Reliability of
Tolerance for Bureaucratic Structure
in Nursing Student Site

Mean	80.13
Standard Deviation	13.21
Number	173
Reliability*	.772

* Coefficient Alpha.

Table IV-36 presents the correlations between TBS and the demographic variables. Only one of the correlations is significant.

Table IV-36

Correlations Between Selected Demographic
Variables and Tolerance for
Bureaucratic Structure in
Nursing Student Site

Variable	Correlation with TBS	Number
Sex (m=1, f=2)	.115	173
Age	.134*	171
Education	.099	171
Number of children	.124	79
Would you do it again (y=2, n=1)	.020	159

* $p < .05$

There is a tendency for older students to be slightly more tolerant of structure.

Again we obtained no measure of the performance of the students and so we relied on the expressed satisfaction of the students with the job of nurse. Table IV-37 presents the correlations between the Brayfield Satisfaction measure and the demographic variables and TBS.

Table IV-37

Correlations Between Selected Demographic
Variables, Tolerance for Bureaucratic
Structure and Job Satisfaction in
Nursing Student Site

Variable	Correlation with Job Satisfaction	Number
Sex	.037	158
Age	.141*	156
Education	.025	156
Number of children	.173	73
Would you do it again (y=2, n=1)	.242*	144
TBS	.144*	158

* $p < .05$

There is a very small correlation between TBS and Job Satisfaction, although it is significant. However, when this correlation is controlled for age, the correlation drops from .144 to .128 which is not significant. Hence, the relationship between TBS and Satisfaction is less clear cut in this site than in others we have examined.

There is a slight tendency for the older students to be more satisfied with the job of nurse. Similarly those students who said that they would do the same thing over again if they could choose again, are slightly more satisfied.

G. Office Temporary Workers

The data on office temporary workers were obtained from three office temporary firms. Two of the firms were located in New York City while the third was located in a large midwestern city. In each of the sites the questionnaires were distributed to workers along with their pay check. Workers were asked to fill it out on their own and mail it directly to the investigators. Workers were not required to sign their names to the questionnaire and were assured anonymity of responses. A total of approximately 450 questionnaires were distributed to the administrators of the office temporary firms for distribution. A total of 348 usable responses were obtained.

The office temporary site is interesting in that the work done by most of the workers is relatively structured. A majority of the office temporary personnel are employed in routine clerical and secretarial jobs. However the conditions of work change frequently. A particular individual will typically not work for an extended period of time at one job and may not be required to work on a full time basis.

Table IV-38 presents the mean scores and the reliability estimate in the Office Temporary Site. For purposes of analysis the data from the three sites were combined. The mean score obtained in this group is somewhat lower than the mean score

obtained among other groups of clerical workers.

Table IV-38

Mean, Standard Deviation and Reliability
of Tolerance for Bureaucratic
Structure in Office
Temporary Sites

Mean	95.88
Standard Deviation	17.18
Number	348
Reliability*	.813

* Coefficient alpha.

Table IV-39 presents the correlations between selected demographic variables and scores on the Tolerance for Bureaucratic Structure instrument.

There is a significant, though small, tendency for the women in the sample to score higher on TBS. Congruent with the results in other groups there is a positive correlation between age and TBS. Older workers have slightly higher TBS scores. There is a slight tendency for the more educated workers to have lower TBS scores. Workers with more children have slightly higher TBS scores.

With respect to the work history variables, individuals high in TBS have somewhat more stable work histories and seem to intend to remain on their present job. There is a tendency

for those high in TBS to report that they have held fewer different jobs in the past two years, that they have been on this present job for a longer period of time and that they intend to stay with this job for a longer period of time than workers low in structure. Workers high in TBS are also more likely to say they would do the same job if they had life to live over again.

Table IV-39

Correlations Between Selected Demographic
Variables and Tolerance for Bureaucratic
Structure at Office Temporary Sites

Variable	Correlation with TBS	Number
Sex (m =1, f=2)	.177**	347
Age	.337**	336
Education	-.310**	345
Number of children	.158**	276
Months employed full time	.065	302
Number of different jobs	-.239**	303
Length of time on job	.161**	255
How long intend remaining on job	.100*	286
Would you do it again (y=2, n=1)	.227**	321

* $p < .05$

** $p < .01$

In addition to examining the relationship between TBS and the demographic variables, we also examined the relationship between job satisfaction and both the demographic variables and Tolerance for Bureaucratic Structure. Table IV-40 presents the appropriate correlations between the Brayfield scale and the other variables. There is a slight tendency for the women in the sample to be more satisfied with their jobs. Older and less well educated workers are also more satisfied. Workers with more children are more satisfied.

Table IV-40

Correlation Between Selected Demographic Variables,
Tolerance for Bureaucratic Structure and
Job Satisfaction at Office Temporary
Sites

Variable	Correlation with job satisfaction	Number
Sex (m=1, f=2)	.101*	329
Age	.294**	318
Education	-.153**	327
Number of children	.197**	261
Months employed full time	.112*	287
Number of different jobs	-.105*	288
Length of time on job	.214**	252
How long intend remaining on job	.316**	283
Would you do it again (y=2, n=1)	.388**	309
TBS	.409**	330

* $p < .05$

** $p < .01$

There is a slight tendency for more satisfied workers to have had a more stable work history. They were employed more months full time in the past two years at fewer jobs and have been at their present job for a longer period of time. Since the questions relating to future job plans and the preference of the worker to do the same thing if he had life to live over again are kinds of job satisfaction measures, it is not surprising to find that they correlate with the Brayfield satisfaction measure.

Finally there is a positive correlation between TBS and job satisfaction. This positive correlation cannot be accounted for on the basis of the relationships with any demographic data we collected. The partial correlation between TBS and satisfaction remains .344 (p less than .01) when partialing out the relationship with age. Hence, there is a tendency for more tolerant workers to be more satisfied with their jobs.

H. Taxi Drivers

The data on Taxi Drivers were obtained from two garages in New York City. The data from the two garages were combined for analysis. Questionnaires were distributed directly to the drivers at the beginning of the shift by a researcher with the cooperation of a union representative. At the end of the shift the researcher collected the questionnaires from those who had completed it. The shifts chosen included both day and night shifts.

The drivers were assured anonymity of response and were not required to sign their names to the questionnaire. No

estimate of the response rate can be made since it was possible for the driver to either refuse to take the questionnaire with him or else if he took it with him, not to return it. A total of 500 questionnaires were distributed and of these 332 were returned.

The job of taxi driver is relatively low in structure and consequently the expected mean score on the TBS instrument would be quite low. Table IV-41 presents the mean score and the reliability of the instrument in the site.

Table IV-41

Mean, Standard Deviation, and
Reliability of Tolerance for
Bureaucratic Structure in
Taxi Driver Site

Mean	83.37
Standard Deviation	17.64
Number	332
Reliability*	.847

* Coefficient Alpha.

As expected, the mean score is relatively low.

Table IV-42 presents the correlations between Tolerance for Structure and selected demographic and work history variables.

There is a tendency for males in the site to be slightly more tolerant of structure. Since there were only a few women in the site, this relationship may be spurious.

Table IV-42

Correlation Between Selected Demographic
Variables and Tolerance for
Bureaucratic Structure at
Taxi Driver Site

Variable	Correlation with TBS	Number
Sex (m=1, f=2)	-.126*	317
Age	.540**	314
Education	-.377**	314
Number of children	.338**	292
Number of months, full time	.482**	296
Number of different jobs	.390**	301
Length of time on job	.361**	308
Would you do it again (y=2, n=1)	.075	295
* $p < .05$		
** $p < .01$		

There is a tendency for older drivers and less well educated drivers to be more tolerant of structure. Similarly those drivers with more children are slightly more tolerant of structure.

Even in this relatively unstructured job there is a small trend for a stable work history to be related to tolerance for structure. There is a small tendency for workers high in TBS to report having worked for a longer period of time in the last two years, and at fewer different jobs. They also report that they have been employed for a longer period of time on their current jobs.

The correlation between the question of whether the driver would do the same type of work again and TBS is not significant.

In addition to examining the relationship between TBS and job satisfaction, we also looked at the relationships between expressed satisfaction as measured by the Brayfield scale and the demographic and work history variables. The correlations are presented in Table IV-43.

Table IV-43

Correlations Between Selected Demographic
Variables, Tolerance for Bureaucratic
Structure and Job Satisfaction at
Taxi Driver Site

Variable	Correlation with job satisfaction	Number
Sex (m=1, f=2)	.009	317
Age	.219**	314
Education	-.167**	314
Number of children	.198**	292
Number of months full time	.231**	296
Number of different jobs	.199**	301
Length of time on job	.121*	308
Would you do it again (y=2, n=1)	.323**	295
TBS	.386**	331

* $p < .05$

** $p < .01$

Consistent with findings in other sites there is a tendency for older, less well educated workers with more children to be more satisfied with their work. The workers with more stable work histories also tend to be more satisfied. The more satisfied workers have worked more months full-time at fewer jobs and have been at their present job for a longer period of time than less satisfied taxi drivers.

There is also a tendency for workers who are more satisfied with their jobs to state that if they could live life over again they would do the same job again.

Even in this relatively unstructured work setting, there is a positive correlation between TBS and job satisfaction.

This correlation is significant even when relationships with third variables are controlled. The variable with the largest correlations with both TBS and Job Satisfaction is age. The partial correlation between TBS and Job Satisfaction controlling for age is .326 (p less than .01). Therefore, there is a small but significant relationship between TBS and Job Satisfaction in this unstructured job which cannot be accounted for by relationships with the demographic variables we examined.

I. Industrial Workers

The data on the industrial workers was gathered from three rather distinct sites: an electronic components manufacturing firm; a large, urban garment factory; and a textile printing firm. Because the sites differed considerably both in the kinds of workers employed and in the kinds of work done, the data will be analyzed separately for each site.

1. Textile Printing Workers

The first site to be discussed is the Textile Printing Site. The factory located in New Jersey employs a number of workers involved in tending and operating printing machines. During the Summer of 1970, these workers were given the TBS instrument by a personnel administrator in the factory. Workers were required to sign their names to the questionnaire although they were told that the answers to the questionnaire would be used for research purposes only.

Table IV-44 presents the means and the reliability of the TBS instrument in the site. This is not unexpected given the relatively structure nature of the work done on the site.

Table IV-44

Mean, Standard Deviation and Reliability
of Tolerance for Bureaucratic Structure
in Textile Printing Machine
Worker Site

Mean	101.15
Standard Deviation	15.37
Number	47
<u>Reliability*</u>	<u>.814</u>

* Coefficient Alpha.

Table IV-45 presents the correlations between the TBS scores and selected demographic variables in the group. The results are generally consistent with findings for other groups of workers. There is a tendency for older, less well educated

workers to be somewhat higher in Tolerance for Bureaucratic Structure. Similarly, there is a tendency for workers with high TBS scores to have somewhat more stable work histories. There is a small positive correlation between TBS and the number of months worked full time in the past two years.

Table IV-45

Correlation Between Selected Demographic
Variables and Tolerance for
Bureaucratic Structure
in Textile Worker
Site

Variable	Correlation with TBS	Number
Sex (m=1, f=2)	-.147	47
Age	.262*	47
Education	-.259*	46
Number of children	.065	47
Number of months full time	.286*	46

performance. Table IV-46 presents the mean scores of those who remained employed compared with mean scores of those who left this job.

The data suggest a tendency for workers high in TBS to remain on this job and for workers low in TBS to leave. The difference in mean scores represents a difference of about two thirds of a standard deviation.

Table IV-46

Means and Standard Deviation of Tolerance for
Bureaucratic Structure in Textile
Printing Worker Site

	Workers who remained	Workers who left
Mean	148.86	139.17
Standard Deviation	15.20	14.86
Number	22	23

$$t = 2.16 \quad (p < .05)$$

of the response rate. A worker could refuse to accept a questionnaire or might accept it and not fill it out. In addition a small but significant number of the workers in the factory are unable to read English and consequently could not answer the instrument. Workers were assured anonymity of responses and were not asked to sign their name to the instrument.

Table IV-47 presents the mean TBS score in the site as well as the reliability of the instrument. The mean score is somewhat lower than the mean score in other structured work sites.

Table IV-47

Mean, Standard Deviation and Reliability
of Tolerance for Bureaucratic
Structure in Garment
Operator Site

Mean	90.38
Standard Deviation	13.28

their work life again. None of the other relationships with the demographic and work history variables is significant.

Table IV-48

Correlations Between Selected Demographic
Variables and Tolerance for
Bureaucratic Structure in
Garment Operator Site

Variable	Correlation with TBS	Number
Sex (m=1, f=2)	.162*	153
Age	.115	139
Education	-.105	148
Number of children	.030	138
Number of months full time	.034	143
Number of different jobs	.020	133
Length of time on job	-.112	142
How long intend remaining on job	.082	137

the TBS scores, the relationships with the work history variables are not significant.

Table IV-49

Correlations Between Selected Demographic
Variables, Tolerance for Bureaucratic
Structure and Job Satisfaction
in Garment Operator Site

Variable	Correlation with job satisfaction	Number
Sex (m=1, f=2)	.285*	140
Age	-.022	127
Education	-.114	136
Number of children	-.001	128
Number of months employed full time	-.026	132
Number of different jobs	.183	124
Length of time on job	-.121	134
How long intend remaining	.029	131

Therefore, in this highly structured job, there is a positive relationship between Tolerance for Structure and the expressed satisfaction of the worker with the job.

3. Electronic Assemblers

Data were obtained from a West Coast electronic components manufacturing firm. Questionnaires were distributed to the workers at the factory by their supervisors. The supervisors informed the workers that the questionnaire would be used for research purposes only. The supervisors told the workers that they need not sign their names and provided them with an envelope to mail the completed questionnaire directly to the researchers.

Table IV-50 presents the mean scores and the reliability estimate in the site. As one would expect the mean score is relatively high. The jobs at this factory are relatively structured compared with other sites.

Table IV-50

Mean, Standard Deviation and Reliability
of Tolerance for Bureaucratic

Table IV-51

Correlations Between Selected Demographic Variables
and Tolerance for Bureaucratic Structure in
Electronic Assembler Site

Variable	Correlation with TBS	Number
Sex (m=1, f=2)	.491**	30
Age	.098	30
Education	-.258	30
Number of children	.358*	29
Number of months employed full time	-.041	29
Number of different jobs	-.418**	29
Length of time on job	.214	30
Length of time intend remaining on job	.340*	29
Do it again (y=2, n=1)	.287	28

* $p < .05$

** $p < .01$

There is a tendency for women to be somewhat higher in

IV-52 presents these correlations.

Table IV-52

Correlations Between Selected Demographic Variables,
Tolerance for Bureaucratic Structure and
Job Satisfaction in Electronic
Assembler Site

Variable	Correlation with Satisfaction	Number
Sex (m=1, f=2)	-.221	30
Age	.230	30
Education	.011	30
Number of children	.199	29
Number months employed full time	.271	29
Number of different jobs	-.005	29
Length of time on job	.153	30
Length of time intend remaining on job	.618**	29
Do it again (y=2, n=1)	-.153	28

because of the relatively small N in this group.

J. Unemployed Workers

Data on a number of unemployed workers were obtained at two unemployment offices in the New York metropolitan area. Questionnaires were distributed to the individuals at the employment center along with an envelope for mailing the responses to the researchers. While no completely accurate estimate of the response rate can be made a total of 150 questionnaires were distributed and 73 responses were obtained.

Table IV-53 presents data regarding the mean standard deviation and reliability of the instrument. The mean score in this group is quite low relative to other groups which have been tested.

Table IV-53

One correlation is significant. There is a tendency for better educated individuals to be somewhat less tolerant of structure than those who are not as well educated. It should be noted that the mean educational level in this group is comparatively high.

Table IV-54

Correlations Between Selected Demographic
Variables and Tolerance for
Bureaucratic Structure Among
Unemployed Middle Class
Workers

Variable	Correlation with TBS	Number
Sex (m=1, f=2)	-.063	72
Age	.115	70
Education	-.345**	71
Number of children	-.115	46
Number of months employed full time	-.026	65

tions is significant. There is a tendency for individuals high in Job Satisfaction to report that, if they could live life over again, they would take the same job again.

The correlation between TBS and Job Satisfaction is not significant. It is the only correlation obtained between TBS and satisfaction that is negative.

Table IV-55

Correlation Between Selected Demographic Variables,
Tolerance for Bureaucratic Structure and Job
Satisfaction Among Unemployed Middle
Class Workers

Variable	Correlation with job satisfaction	Number
Sex (m=1, f=2)	.253	52
Age	-.250	50
Education	.133	52
Number of children	-.240	29
Number of months employed full time	-.035	47

V. THE FACTOR STRUCTURE OF THE TOLERANCE FOR
BUREAUCRATIC STRUCTURE INSTRUMENT

The responses made by some 440 individuals enrolled in the various Job Training Programs as well as those employed in the Bank Clerical Worker site were factor analyzed. The principal axis method with varimax orthogonal rotations was used in this analysis. The Kiel Wrigley criterion was employed to determine the number of factors to rotate. Table V-1 presents the rotated factor loadings for solution. Table V-2 presents the arrays for each of the factors. As indicated in the Tables, eight factors emerged. In interpreting the Tables, it should be noted that to remove negative loadings each question was scored so that a bureaucratic answer scored high.

The first factor deals with rules on the job and accounts for approximately 20% of the common factor variance. The items on this factor indicate a general dislike or disrespect for rules and orders.

The second factor deals with the desire for direction and

Table V-1

VARIMAX ROTATION ANALYSIS: POLERAI
FOR BUREAUCRATIC STRUCTURE

Item	Rotated Factor Loadings			
	1	2	3	4
1	<u>-.044</u>	.120	-.037	.180
2	<u>.341*</u>	.043	-.009	.111
3	<u>.059</u>	.034	.139	.217
4	.001	.142	-.247	-.033
5	.093	.201	<u>.415</u>	.013
6	<u>-.192</u>	.120	<u>-.196</u>	-.002
7	<u>.340</u>	.205	.197	.149
8	<u>.144</u>	.136	.082	.159
9	.003	.071	-.080	-.019
10	<u>.542</u>	.055	.131	.025
11	<u>.612</u>	.064	-.017	.157
12	<u>.309</u>	.239	.088	.129
13	<u>.120</u>	.024	.177	-.022
14	.104	.065	.027	.094
15	.059	<u>.342</u>	.134	.020
16	.055	<u>.060</u>	-.162	-.067
17	.106	.006	.149	.429
18	<u>-.108</u>	.241	.061	<u>.042</u>
19	.011	-.110	.533	-.002
20	.028	-.016	<u>.565</u>	.032
21	.045	<u>.439</u>	<u>-.130</u>	.079
22	.015	.128	-.106	-.061
23	.270	-.020	.000	-.188
24	<u>.399</u>	.066	-.048	.030
25	<u>.093</u>	.054	-.018	<u>.474</u>
26	.120	-.051	.131	.005
27	<u>-.032</u>	-.065	-.049	.282
28	.158	.017	<u>.528</u>	-.011
29	.073	.216	<u>.083</u>	-.084
30	<u>.021</u>	<u>.332</u>	.011	.136

* Underlined loadings represent the highest loadings of a pair

Table V-1 continued

Item	Rotated Factor Loadings			
	1	2	3	4
31	<u>.065</u>	.134	.076	.131
32	.120	.041	.086	-.032
33	.242	.005	.101	.027
34	.061	.138	.288	.137
35	.115	.271	.093	.032
36	-.017	.135	<u>.431</u>	.024
37	.011	.079	<u>.166</u>	.176
38	<u>.322*</u>	.049	.044	-.008
39	<u>.243</u>	-.173	-.020	.021
40	<u>.387</u>	.071	.133	-.187
41	<u>.211</u>	.064	.093	-.146
42	.477	-.111	.087	.056
43	.084	<u>.409</u>	.096	-.031

* Underlined loadings represent the highest loadings of a part

Items With Their Highest Loading on Factor I and Their
Factor Loadings

Item number	Item	Loading
11.	It seems to me that most rules on the job are not really needed.	.612
10.	The worst part about working is having to take orders.	.542
42.	Most formen are too bossy.	.477
24.	If a boss gives you a bad job he ought to be told off.	.399
40.	Workers often know more than bosses.	.387
2.	Often the only thing wrong with breaking a rule is getting caught.	.341
7.	When I apply for a job I get very mad if they make me wait to find out if I got the job.	.340
38.	People who refuse to obey orders on the job are often right.	.322
12.	Sometimes I wish I could change jobs every few months.	.309

Items With Highest Loadings, By Factor

A. Factor II

Item number	Item	Loading
21.	When I am working, I like my boss to tell me how he thinks I am doing.	.439
43.	I enjoyed filling out this form.	.409
15.	I like people telling me how to do things.	.342
30.	I think a boss has the right to tell you exactly what to do.	.332

B. Factor III

20.	I like the responsibility of working without a boss.	.565
19.	I would like a job where I had more control over the way I work	.533
28.	It is better to be your own boss than to work for someone else.	.528
36.	I like to set my own pace when working.	.431
5.	I would like to have a job where I could set the hours.	.415

Table V-2 Continued

C. Factor IV

Item number	Item	Loading
25.	If a person is late for work, he should not be paid for the time.	.474
17.	A boss should expect you to take a sick day for personal business when you need it.	.429

D. Factor V

16.	It is important to save a regular part of your salary each week.	.401
3.	It makes me angry to see other people wasting time on the job.	.395
14.	If everybody obeyed the rules at work, there would be fewer accidents	.395
22.	I like to work at a steady speed.	.341
4.	It is often good to wait and think things over before deciding.	.309
32.	Even if I don't like a rule, I usually obey it.	.305

E. Factor IV

9.	I usually do what the boss says even if I do not agree with him.	.475
8.	I think most bosses know what they are doing.	.402
32.	Even if I don't like a rule I usually obey it.	.369
35.	A company has the right to tell you what to wear to work.	.305

F. Factor VII

26.	If I won a lot of money, I would first take a vacation.	.447
23.	I like to spend money as soon as I get it.	.410
28.	It is better to be your own boss than to work for someone else.	.369
31.	It is smart to take a chance once in a while.	.344
12.	Sometimes I wish I could change jobs every few months.	.306

Table V-2 ContinuedG. Factor VIII

Item number	Item	Loading
18.	Work is the most important thing in life.	.432
27.	What happens to you in life depends on hard work.	.341
6.	The best job for me would be one where you knew exactly what you had to do even if you did not know why you had to do it.	.337

The remaining four factors deal with Responsibility, both personal and work (Factor V), the Intelligence of Rules (VI), Personal Recklessness (VII), and Work as a Value (VIII).

A. The Validity of Sub-Scores

Beginning with the eight factors extracted from the orthogonal factor analysis, scores were computed for subscales composed of the items which had highest loadings on the factors described above. While these scores are not factor scores, they do reflect the factor structure of the instrument.

Using the New York City Bank Site, sub-scores on the eight dimensions were computed. Tables V-3 and V-4 present the means, standard deviations, and reliabilities of the sub-scores. The scores were computed separately for each of the two waves of respondents at the Bank. Note that in both groups the first scale "Rules" seems to be the most reliable.

Using as a criterion variable supervisory ratings of the workers, correlations were computed between the scores on the various scales and the ratings. Table V-5 and V-6 present these correlations.

Means, Standard Deviation and Reliability
Estimate of Scale Scores in Bank
Clerical Site

		Mean	Standard Deviation	Reliability*
I	Rules	23.87	5.14	.700
II	Preference for Structure	10.38	2.72	.452
III	Desire for Independence	8.25	3.10	.473
IV	Reciprocal Rights	2.77	1.87	.312
V	Responsibility	15.16	3.24	.229
VI	Intelligence of Rules	10.27	2.52	.405
VII	Personal Recklessness	11.44	3.34	.472
VIII	Work as a value	5.53	2.50	.303

* Coefficient Alpha.

Note that in both samples the "Rules" subscale has a number of significant correlations with the criterion variables. Factor III (Work as a Value) seems to have rather consistent negative relationships with the criterion ratings.

B. Second Order Factor Analysis

The orthogonal factor analysis yielded eight factors. In order to further examine the factor structure of the instrument without forcing orthogonality on the results, a principle axis factor analysis with promax oblique rotations was carried out.

Table V-4

Means, Standard Deviation and Reliability
Estimates of Scale Scores in Bank
Clerical Site

		Mean	Standard Deviation	Reliability
I	Rules	24.04	5.03	.677
II	Preference for Structure	9.96	2.73	.446
III	Desire for Independence	8.54	3.31	.553
IV	Reciprocal Rights	3.20	1.71	.330
V	Responsibility	15.28	2.57	.434
VI	Intelligence of Rules	9.61	2.48	.290
VII	Personal Recklessness	11.57	3.13	.487
VIII	Work as a Value	4.99	2.51	.394

* Coefficient Alpha.

Correlations Between Scale Scores and Supervisory Ratings
At a Bank Clerical Site
(N=61)

	Scale Scores							
	I Rules	II Preference for Structure	III Desire for Independence	IV Recip- rocal Rights	V Respon- sibility of Rules	VI Intelligence	VII Personal Reckless- ness	VIII Work as a Value
Effort	.355**	.038	.215*	.088	-.038	-.069	.174	-.052
Initiative	.394**	.145	.112	.159	.031	.094	.263*	-.138
Promotion Potential	-.322**	.056	.090	.143	.100	-.042	.274*	-.254*
Accuracy	.323**	.123	.218*	.159	-.007	.026	.275*	-.118
Speed	.115	-.009	.246*	-.094	-.046	-.108	.120	-.168
Job Knowledge	.303**	-.007	.256*	.172	-.097	-.111	.078	-.152
Learning Ability	.237*	-.011	.145	.148	.012	-.117	.213*	-.322**
Emotional Stability	.289*	.043	.178	.070	-.120	-.119	.035	-.200
Dependability	.416**	.060	.239*	.186	.008	-.110	.261*	-.267*
Relationship with Custo- mers	.214*	.031	.316**	-.336**	.134	-.093	.177	-.454**
Relations with Co-workers	.457**	.060	.263*	.243*	-.021	-.123	.163	-.078

Table V-5 Continued

	Scale Scores							
	I Rules	II Preference for Structure	III Desire for Independence	IV Recip- rocal Rights	V Respon- sibility	VI Intelligence of Rules	VII Personal Reckless- ness	VIII Work as Value
Relations with Superiors	.516**	.214*	.228*	.255*	-.037	-.114	.315**	-.216*
Punctu- ality	.105	.174	.163	.034	.003	-.030	.107	-.087
Attendance	.291*	.233*	.189	.152	.143	.144	.107	-.296*
Appearance	.326**	.030	.052	.174	-.112	-.013	.088	-.247*
Rules and Regulations	.333**	-.003	.177	.220*	.046	.006	.047	-.198
Overall Evaluation	.370**	-.016	.297*	.134	.045	-.124	.260*	-.201

* $p < .05$
 ** $p < .01$

Correlations Between Scale Scores and Supervisory Ratings
at Bank Clerical Site
(N=131)

	Scale Scores							
	I	II	III	IV	V	VI	VII	VIII
	Rules	Preference for Structure	Desire for Independence	Reciprocal Rights	Responsibility	Intelligence of Rules	Personal Recklessness	Work as Value
Effort	.031	.064	.115	.092	.211**	.034	.017	-.055
Initiative	.127	.085	-.047	.180*	.100	.017	.015	.001
Promotion Potential	.143	.127	.065	.136	.219**	.084	.088	-.019
Accuracy	-.012	.014	.052	-.003	.007	-.036	.066	-.042
Speed	-.025	-.006	-.007	.004	.126	-.012	-.069	-.094
Job Knowledge	.054	.019	.147*	.018	.081	.040	.040	-.050
Learning Ability	-.088	-.081	-.062	.003	-.004	.018	-.103	-.142
Emotional Stability	.070	.108	.194*	.027	.089	.032	.080	-.060
Dependability	-.003	.030	.082	-.033	.024	-.037	.061	-.097
Relations with Customers	.308**	-.011	.221**	.043	-.003	.187*	.069	-.080
Relations with Co-workers	.186*	.217**	.218**	.112	.133	.080	.072	-.194*

CONTINUED

Table V-6 Continued

Scale Scores								
	I Rules	II Preference for Structure	III Desire for Independence	IV Recip- rocal Rights	V Responsi- bility	VI Intelligence of Rules	VII Personal Reckless- ness	VIII Work as a Value
relations with superiors	.161*	.163*	.200	.057	.148*	-.097	.131	-.009
punctu- ality	.080	.247**	.036	.092	.121	.094	.096	.082
attendance	.012	.137	.031	-.005	.037	.026	.042	.078
appearance	.088	.202*	.143	-.106	.015	.074	.017	-.044
rules and regulations	.093	.175*	.253**	-.053	.054	-.043	.100	-.037
Overall Evaluation	.083	.057	.072	-.058	.121	.026	.039	-.053

* p .05
** p .01

The resulting factors were intercorrelated and a second order factor analysis with varimax orthogonal rotations was performed.

Tables V-7 and V-8 present the promax factors. As indicated in Table V-6, a total of eight first order factors were extracted. The eight factors are called: 1. Respect for Authority; 2. Dependence; 3. Non-impulsiveness; 4. Obedience to rules; 5. Conscientious use of time; 6. Desire for Directions; 7. Work as a Positive Value; 8. Respect for Rights.

The second order varimax analysis is presented in Tables V-9 and V-10. As indicated, two second order factors were extracted. The first factor is a general one which incorporates six of the first order factors. It seems to conform to earlier conceptions of "Bureaucratic Tolerance." The second factor, which is more difficult to interpret, relates to dependence, the conscientious use of time, and obedience to rules.

C. Conclusions

A factor analysis of a data matrix can never provide a definitive statement of the nature of the responses of individuals. However, the technique may be useful in interpreting and understanding the dimensions which underlie the responses individuals make to a particular set of questions.

Tolerance for Bureaucratic Structure was never conceived of as unitary construct. Four conceptually distinct aspects of the construct were hypothesized a priori. The factor structure of the instrument does not strictly conform to the hypothesized four dimensions of the initial construct. The analyses suggest a somewhat more complex structure.

 Rotated Factor Loadings Promax

Item	Factor Loadings*			
	A	B	C	
1	-.053	-.040	-.038	.055
2	.175	-.090	.204	-.099
3	.056	.176	-.066	-.067
4	-.046	-.182	.036	.304
5	-.032	.311	.068	-.058
6	-.134	-.147	.059	.135
7	-.169	.056	.125	.003
8	.133	.047	-.094	.339
9	-.013	-.040	.031	.429
10	.417	.071	.036	.062
11	.526	-.124	-.024	-.059
12	.117	-.035	.200	.145
13	.008	.114	.141	.028
14	.022	.066	.058	.074
15	.017	.068	-.002	.040
16	-.038	-.092	.233	.018
17	-.007	.038	.100	-.070
18	-.051	.039	-.009	-.059
19	-.070	.484	.079	-.011
20	-.008	.523	-.080	-.012
21	.014	-.170	-.061	-.072
22	-.000	-.042	.041	.072
23	.050	-.002	.387	.052
24	.234	-.131	.230	-.079
25	.087	-.076	-.050	.015
26	-.116	.100	.396	.097
27	.011	-.030	.019	.137
28	.044	.482	.066	.063
29	-.087	-.020	.314	-.030
30	-.050	-.060	.054	.163
31	-.100	-.005	.306	-.039
32	-.040	.124	.208	.354
33	.118	.056	.276	-.091
34	-.024	.159	.072	.017
35	.072	.047	-.103	.281
36	-.088	.384	-.000	.007
37	.025	.177	-.073	-.029
38	.172	-.004	.196	.015
39	.075	-.026	.407	.037
40	.321	.097	-.000	.030
41	.123	.028	.211	-.052
42	.376	.027	.093	.179
43	.030	.024	-.020	.061

Table V-7 Continued

Item	Factor Loadings*			
	E	F	G	H
1	.122	.090	.020	.152
2	.067	.047	-.146	.139
3	.402	.016	.105	.149
4	.228	.096	-.096	-.048
5	-.014	.193	-.073	.001
6	.046	.087	.370	-.042
7	-.051	.177	-.088	.140
8	-.053	.052	.134	.087
9	.002	-.009	.138	-.062
10	.114	.027	-.073	-.017
11	-.003	.051	-.051	.123
12	-.051	.188	-.038	.121
13	-.099	.015	-.088	.001
14	.369	.038	-.055	.063
15	.046	.311	.170	-.039
16	.372	.054	.072	-.073
17	-.036	-.018	-.060	.442
18	.030	.222	.450	-.030
19	-.092	-.121	-.014	-.002
20	.016	-.033	-.026	-.007
21	.259	.435	-.001	.033
22	.304	.110	.102	-.101
23	.149	-.022	-.146	-.141
24	.026	.069	-.083	.052
25	.068	.008	.157	.427
26	.074	-.072	-.169	.063
27	.031	-.121	.371	.226
28	.069	-.015	.006	-.050
29	-.144	.211	.079	-.054
30	.006	.278	.125	.095
31	.022	.117	.070	.151
32	.235	-.027	-.070	-.049
33	.066	-.002	.217	.017
34	-.238	.111	.054	.131
35	.001	.211	-.049	-.021
36	.074	.115	-.015	-.008
37	.244	.054	.181	.107
38	.086	.037	-.061	-.003
39	.052	-.191	.119	.053
40	.013	.066	-.045	-.217
41	-.139	.065	.178	-.145
42	-.128	-.156	.027	.035
43	.050	.381	.090	-.086

* Significant loadings are underlined

Factor Arrays for Promax Solutions

<u>Loading</u>		<u>Item</u>
<u>Factor 1</u> <u>Respect for Authority</u>		
.526	11.	It seems to me that most rules on the job are not really needed.
.417	10.	The worst part about working is having to take orders.
.376	42.	Most foremen are too bossy.
.321	40.	Workers often know more than bosses.
<u>Factor 2</u> <u>Dependence</u>		
.523	20.	I like the responsibility of working without a boss.
.484	19.	I would like a job where I had more control over the way I work.
.482	28.	It is better to be your own boss than to work for someone else.
.389	36.	I like to set my own pace when working.
.311	5.	I would like to have a job where I could set the hours.
<u>Factor 3</u> <u>Non-Impulsiveness</u>		
.407	39.	It is hard for me to keep from blowing my top when someone gets me very angry.
.396	26.	If I won a lot of money, I would first take a vacation.

Continued

<u>Loading</u>		<u>Item</u>
.387	23.	I like to spend money as soon as I get it.
.314	29.	Jobs where you have to sit in the same place all day would drive me crazy.
.306	31.	It is smart to take a chance once in a while.

Factor 4
Obedience to Rules

.469	9.	I usually do what the boss says even if I do not agree with him.
.254	32.	Even if I don't like a rule I usually obey it.
.339	8.	I think most bosses know what they are doing.
.304	4.	It is often good to wait and think things over before deciding.

Factor 5
Conscientious Use of Time

.402	3.	It makes me angry to see other people wasting time on the job.
.372	16.	It is important to save a regular part of your salary each week.
.369	14.	If everybody obeyed the rules at work, there would be fewer accidents.
.304	22.	I like to work at a steady speed.

Factor 6
Desire for Directions

.435	21.	When I am working I like my boss to tell me how he thinks I am doing.
.381	43.	I enjoyed filling out this form.
.311	15.	I like people telling me how to do things.

Continued

workers are more tolerant of bureaucratic structure than younger workers and the less well educated are more tolerant than the better educated. Workers having children tend to be more tolerant of structure.

Table VII-1
Correlations Between Selected Demographic Variables
and Tolerance for Bureaucratic Structure
Across Sites

Variable	Correlation with TBS	Number
Sex (m=1, f=2)	.135**	2,107
Age	.191**	1,986
Education	-.078**	2,224
Number of children	.112**	1,809
Months employed full time	.045*	1,656
Number of different jobs	-.024	1,779
Length of time on job	.008	793
How long will you remain	.147**	802
Would you do it again (y=2,n=1)	.124**	1,045

* $p < .05$

** $p < .01$

The data with respect to work history variables is less clear cut. There is a slight tendency for workers high in TBS to report having worked more months full time in the past two years than workers low in tolerance. The negative relationship between TBS and the number of different jobs held in the past two years is not significant. The relationship between length of time on the job and TBS is also not significant. There is, however, a slight tendency for workers high in TBS to report

that they intend to remain on their job for longer periods than that reported by workers low in tolerance, and to report that if they had life to live over, they would do the same job again.

It should be noted that the relationships between the work history variables and TBS are smaller when averaged across sites than is the case when the data were analyzed within sites.

Table VII-2 presents the correlations between the job satisfaction measure and the demographic and work history variables.

Again the pattern of correlations approximates the relationships obtained when data within sites were analyzed. Female workers tend to be slightly more satisfied with their jobs. Workers with a greater number of children again showed a small tendency to be more satisfied. More satisfied workers report that they have worked a greater number of months full time in the past two years at slightly fewer different jobs than those who are less satisfied. Scores on the satisfaction measure are also positively related to the length of time workers intend to remain on their jobs and their willingness to do the same job again if they had life to live over.

Finally there is a correlation between TBS and the job satisfaction measure across sites. There is a tendency for those high in tolerance for structure to report they are more satisfied with their jobs regardless of what job they hold within our sample. This correlation is not accounted for on the basis of a relationship with any third variable. The partial correlation between TBS and satisfaction controlling for sex--the demographic variable most highly correlated with each of the other variables--was .313. This relationship is consistent with the analyses

within sites.

Table VII-2

Correlation Between Selected Demographic and Work
History Variables and Job Satisfaction

Variable	Correlation with Job Satisfaction	Number
Sex (m=1, f=2)	.264**	1,576
Age	.032	1,424
Education	.024	1,487
Number of children	.112**	1,232
Months employed full time	.101**	1,238
Number of different jobs	-.065*	1,259
How long will they remain	.203**	771
Do again	.394**	977
TBS	.335**	1,611

* $p < .05$

** $p < .01$

There are a number of demographic variables which could not easily be analyzed by correlational techniques. For these variables the mean score on the TBS measure will be presented for each category. Table VII-3, for example, presents the relationship between Tolerance for Bureaucratic Structure and marital status. Note that the mean TBS score increases as we move from the single category to the married category and to those who are divorced. Hence, there is a tendency for single

people to be less tolerant of structure than either those who are married or divorced.

Table VII-3

Means and Standard Deviations of Tolerance
for Bureaucratic Structure for Persons
with Different Marital Statuses

Marital Status	Mean	Standard Deviation	Number
Single	87.38	18.22	793
Married	94.38	14.97	921
Divorced	97.64	18.27	217
Other	95.60	14.35	47

Table VII-4 presents the mean TBS scores for various religious groups. Note the Jews are lowest in tolerance for structure followed by Catholics; Protestant group is the most tolerant.

Table VII-4

Means and Standard Deviations of Tolerance for Structure
for Various Religious Groups

Religious Group	Mean	Standard Deviation	Number
Catholic	92.48	14.92	474
Protestant	95.89	15.01	425
Jewish	86.35	18.13	213

Table VII-5 presents the TBS scores of various racial groups. There is a tendency for blacks to be higher in Tolerance for

Structure than whites or Puerto Ricans. The Puerto Ricans mean falls between that of blacks and whites.

Table VII-5

Means and Standard Deviations of Tolerance
for Bureaucratic Structure for
Various Races

Group	Mean	Standard Deviation	Number
Black	98.02	14.57	690
White	89.03	17.47	1,236
Puerto Rican	94.92	17.03	106
Other	97.05	15.82	152

In considering the data presented, it should be understood that they were not gathered on groups representative of the population as a whole. Consequently generalizations to the population as a whole, especially with respect to the demographic data, are completely inappropriate.

The relationship between education and Tolerance for Structure is different for different sites. For example in one of the WIN sites the correlation is positive while in one of the bank clerk sites the relationship is negative. Since there is a tendency for the positive correlations between TBS and education to occur in those sites where the mean educational level is quite low and the negative relationships to occur in those sites with a high mean level of education, the possibility of a curvilinear relationship between the variables existed. In order to investigate this curvilinear relationship, the mean

scores on the TBS measure are computed for groups with various levels of education. Table VII-6 presents the mean scores as well as the summary of the analysis of variance for the differences between the groups.

Table VII-6

Means and Standard Deviations of Tolerance for
Individuals Completing Various Levels
of Education

Tolerance for Structure	Years of Education				
	1-8	9-11	12	13-15	16+
Mean	97.14	98.16	95.34	84.86	81.31
Standard Deviation	15.61	13.87	15.19	17.79	19.53
Number	237	436	787	506	226

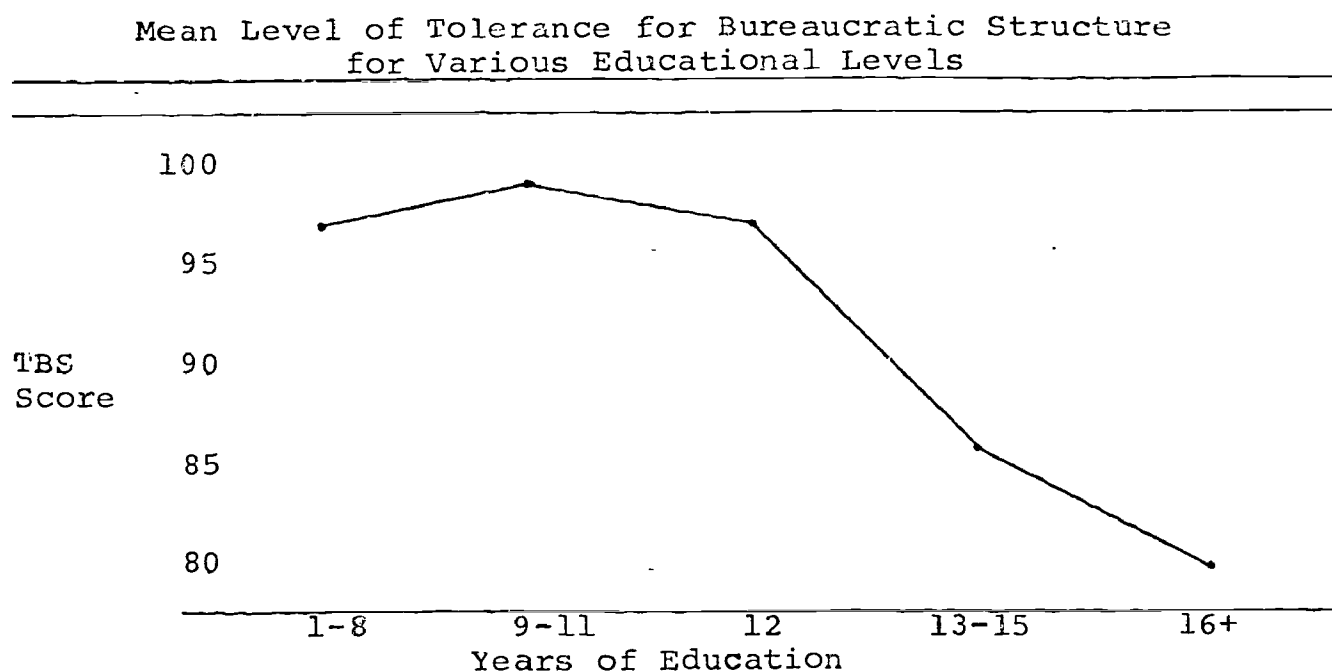
One Way Analysis of Tolerance for Structure Scores For Individuals
Completing Various Levels of Education

Source	df	Sum of Square	Mean Square	F
Between	4	88464	22116.00	87.47*
Within	2187	552960	252.84	

* $p < .01$

Figure VII-1 presents the relationship in a more graphic form. Note that there is a tendency for the relationship between education and TBS to be positive until somewhere late in high school when the curve changes slope and additional education is associated with lower TBS scores.

Figure VII-1



For most of those tested in this study who were employed (as compared with those in training programs or unemployed), job titles and brief descriptions were obtained and based on these materials, their jobs were classified according to their Dictionary of Occupational Titles code. The DOT classifications of "worker traits" associated with each job were also coded. We were unable to do this for all workers since in some cases they did not answer the question relating to their present job or the job description they gave us was too ambiguous to be coded. A total of 1,334 usable DOT codes were obtained.

The DOT scores on worker traits were correlated with the scores on the TBS instrument found among workers on that job. The worker traits were coded so that 1 meant that the trait was required for the job and 0 meant that the trait was not required for the job. Table VII-7 presents the correlations with TBS.

Table VII-7

Correlations Between Tolerance for Bureaucratic
Structure and Dictionary of Occupational
Title Worker Traits

Trait	Correlation With TBS	Number
Situations involving a preference for activities of a routine organized concrete nature	.071*	1,334
Situations involving repetitive or short cycle operations	.000	1,334
Situations involving doing things under specific instructions	.210**	1,334
Situations involving the precise attainment of limits	.188**	1,334

* $p < .05$

** $p < .01$

Note that three of the four correlations are significant and that each of the significant correlations is positive. There is, therefore, a slight tendency for workers more tolerant of bureaucratic structure to be working in jobs which require traits related to a tolerance for structure.

Correlations were also computed between the worker traits and the Brayfield Job Satisfaction Measure. Table VII-8 presents these correlations. Two correlations are negative and significant; one is positive and significant. There is a slight tendency for workers employed on jobs which require routine, concrete activities to be somewhat less satisfied with their jobs than those on jobs without this characteristic. Workers whose jobs require repetitive or short cycle operations are also somewhat less satisfied with their jobs. On the other hand,

work which requires the precise attainment of set limits seems to be slightly associated with higher job satisfaction.

Table VII-8

Correlation Between Job Satisfaction and
Dictionary of Occupational Title
Worker Traits

Trait	Correlation with Satisfaction	Number
Situations involving a preference for activities of a routine organized concrete nature.	-.173**	1,257
Situations involving repetitive or short cycle operations	-.247**	1,257
Situations involving doing things under specific instructions	-.006	1,257
Situations involving the precise attainment of set limits	.109*	1,257

* $p < .05$

** $p < .01$

Since one would expect the relationships between Job Satisfaction and Tolerance for Structure to be moderated by the degree to which the job is characterized by bureaucratic or structured traits, an attempt was made to examine this relationship through partial correlations. Job Satisfaction is correlated with Tolerance for Structure holding constant the relevant worker traits. Table VII-9 presents the correlations.

Table VII-9

Partial Correlation Between Tolerance for
Bureaucratic Structure Holding
Constant Worker Traits

Trait Held Constant	Correlation Between TBS and Satisfaction
Situations involving a preference for activities of a routine organized concrete nature	.352*
Situations involving short cycle or repetitive operations	.346*
Situations involving doing things under specific instructions	.344*
Situations involving the precise attainment of set limits	.323*

* $p < .01$

Note that in three of the four cases the partial correlation was greater than the zero order correlation. When one controls for each of the bureaucratic or structure traits, the relationship between satisfaction and tolerance increases slightly in 3 of the 4 cases.

The Relationship Between the JDQ and TBS Across Sites

Using the job description questionnaire described in Section II-B, an attempt was made to score each job site. In most cases a responsible supervisor was asked to fill out the instrument regarding the requirements of the job. In other cases the researchers spent time observing the job and filled out the instrument directly. Where ever possible, more than one estimate was obtained of the degree of structure required on the job in

the site and the score used in data analysis is the average score. Since the instrument has been used only on a small sample of jobs the number should be considered only as an ordinal indicator of the degree of structure. A higher score reflects a higher structure.

Table VII-10 presents the JDQ score for each site together with the mean TBS score obtained in that site.

In Table VII-10 it should be noted that the mean JDQ score reported for the Bank Clerical Workers site is different from the TDQ mean score in the site which was reported previously in Section II-B.

Table VII-10

Mean Scores on Job Description Questionnaire
Scores by Site

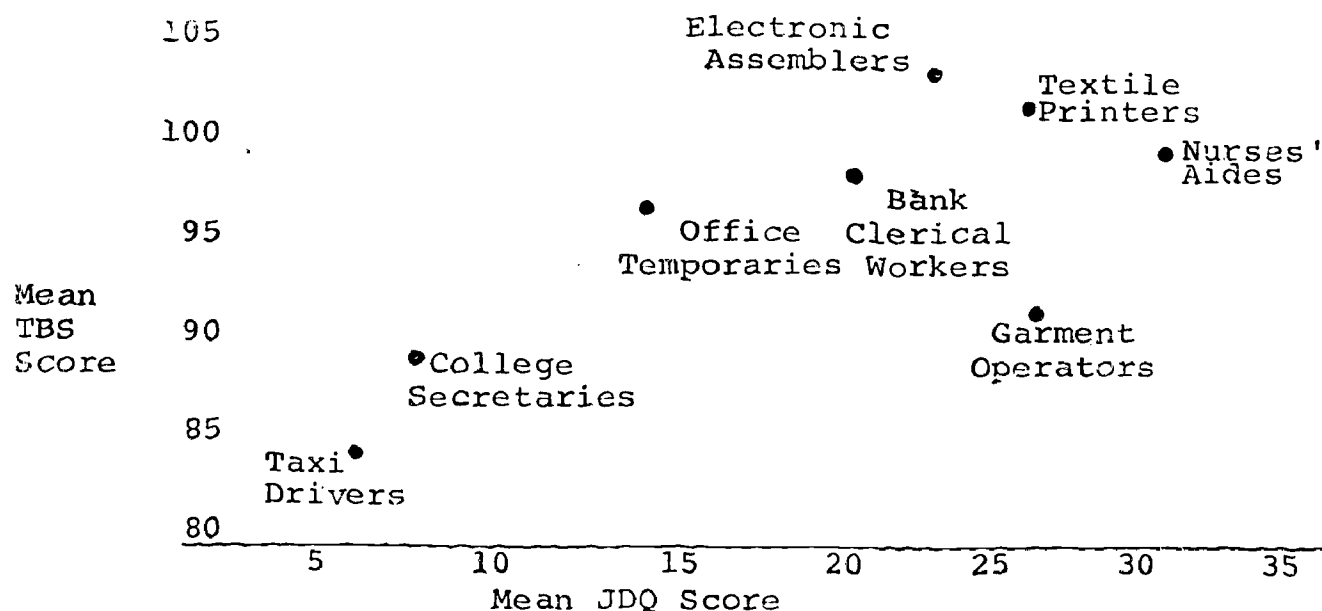
Site Name	Mean JDQ Score	Mean TBS Score
Taxi Drivers	6	83.37
College Secretaries	8	87.82
Office Temporaries	13	95.88
Bank Clerical Workers	18	97.27
Electronic Assemblers	23	103.83
Garment Operators	26	90.83
Textile Printing Workers	27	101.14
Nurses' Aides	31	99.56

This is because the mean score here was weighted to reflect the number of workers within the sites who had a job with a particular JDQ score.

Figure VII-2 presents the results in a more graphic form. Note that there is a tendency for the mean level of TBS to increase as the degree to which the job is structured increases. The only major exception to this tendency is the Garment Site. This site is rather unusual in that it employs a large number of immigrant workers with relatively little education. Most of the workers have had little experience at other jobs, feel they have little opportunity to get other jobs, and thus most report they intend to stay with the job for the rest of their life whether they like it or not. The adherent nature of this group of workers may be a result of the fact that they are locked into this factory by virtue of their membership in a non-English-speaking, immigrant community with strong ties to this particular industry.

Figure VII-2

Mean TBS Scores and Job Scores for
Various Occupations Sites



If one examines the results for the white collar and the blue collar jobs separately the same pattern is observable. The relevant figures are Figure VII-3 and VII-4.

Figure VII-3

Mean TBS Scores and Job Scores for
Various Blue Collar Sites

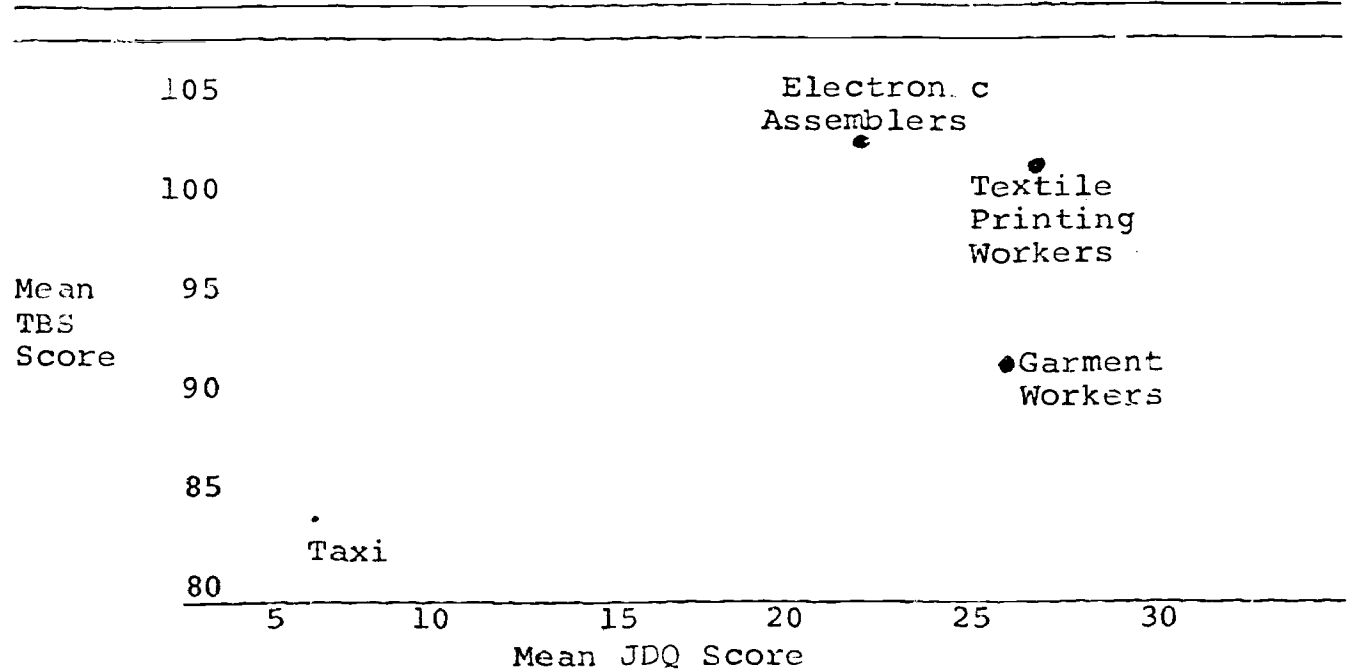


Figure VII-4

Mean TBS Scores and Job Scores for
Various White Collar Sites

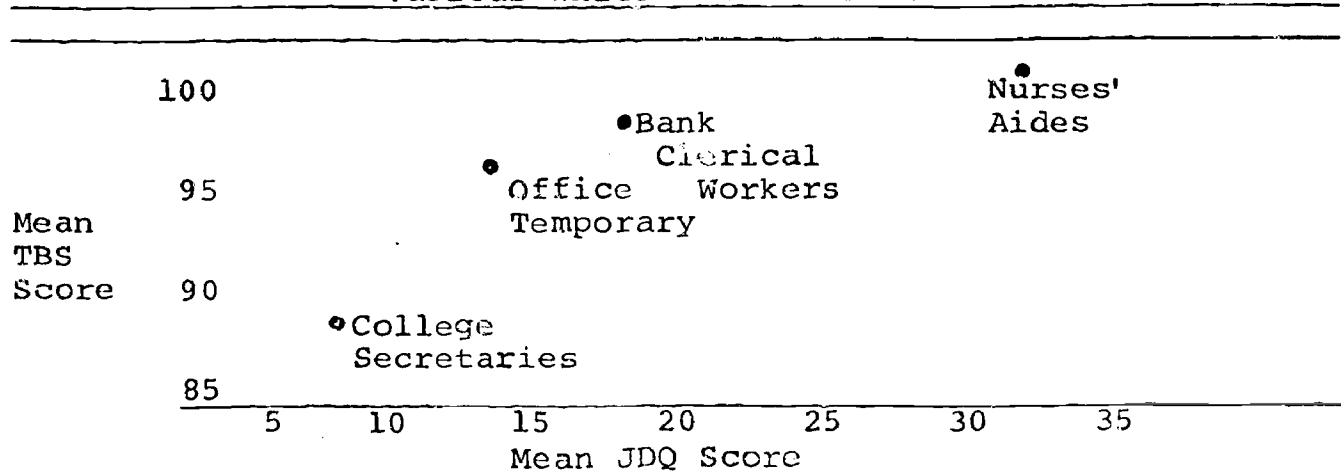


Table VII-11 presents the correlations between the Tolerance for Structure Measure and the Brayfield Job Satisfaction measure in each site. A consistent pattern does not emerge. There is a positive correlation in each site. The magnitude of the correlation does not seem to vary in a systematic fashion as the degree of structure within the site changes. It had been anticipated that for structured sites the relationship between satisfaction and Tolerance for Structure would be stronger than for unstructured sites. At least within the range of structure represented by our work sites, this is not the case.

Table VII-11

Correlations Between TBS and Job Satisfaction
for Sites of Different Structure

Site	JDQ Scores	Correlation Between TBS and Satisfaction
Nurses' Aides	31	.369
Garment Operators	26	.473
Electronic Assemblers	23	.270
Office Temps	13	.409
College Secretaries	8	.387
Taxi Drivers	6	.386

There is a tendency for workers more tolerant of structure to indicate greater satisfaction with their job even in unstructured sites.

Table VII-12 presents the mean level of Job Satisfaction obtained in each site. Previous analyses using the DOT indicated that workers in jobs whose characteristics suggest more complex tasks tend to be slightly more satisfied with these jobs.

Table VII-12

Mean Job Satisfaction Scores By Site

Site Name	Mean JDQ Score	Mean Satisfaction Score
Taxi Drivers	6	56.79
College Secretaries	8	63.79
Office Temporaries	13	62.53
Electronic Assemblers	23	62.56
Garment Operators	26	58.18
Nurses' Aides	31	66.02

Using the JDQ as a direct measure of the over-all degree of structure, this relationship is not supported. There is no consistent pattern between job satisfaction and job structure scores.

VIII. SUMMARY AND POLICY IMPLICATION

A. Summary

The goal of the study was to develop instruments to measure workers' Tolerance for Structure to measure the structural requirements of jobs. Presumably Tolerance for Structure is an attribute of personality which accounts for some of the match between an individual and a job and influences some behavioral and attitudinal responses workers have to their jobs.

Based on this notion, a 43 question instrument was developed which is designed to tap the extent to which an individual indicates a tolerance or preference for working in a structural work environment. This instrument is called the TBS (Tolerance for Bureaucratic Structure) Instrument. The instrument was administered to over 2,500 individuals in a variety of jobs and job training programs. In the 15 separate sites where the instrument was administered, split half and coefficient alpha reliabilities ranged from .73 to .86. Test-retest stability data on the instrument over a period of time in excess of one year yielded a correlation of .6 between successive measurements.

Scores on the TBS instrument were related to a number of demographic variables. There was a positive relationship between TBS and age. Single workers scored lower than married or divorced workers. There was a relationship between religious preference and TBS. There was a curvilinear relationship

between education and TBS with lower TBS scores associated with both very little and a substantial amount of education. High scores on the TBS instrument also tended to be associated with a more stable work history.

In several sites, various supervisory ratings of performance were obtained for workers and trainees. The majority of the correlations between TBS and these ratings were positive although they were small. There seems to be a tendency for supervisors to give higher performance rating high TBS workers.

In several sites, job retention data were obtained. Again there was a slight tendency for higher TBS workers to stay on the job or to complete training programs compared to lower TBS workers who tended to leave more frequently.

Finally TBS scores were related to a standardized direct measure of global job satisfaction. The correlations between TBS and all Satisfaction indicators were positive in each of the work sites. High TBS workers report that they like their jobs more and show other evidence of their general satisfaction.

When the Dictionary of Occupational Titles "Worker Trait" Codes were related to the scores of workers on the TBS instrument positive correlations were obtained. There seems to be a tendency for high TBS workers to be employed at more structured jobs as roughly estimated by these.

The second instrument, developed to measure the degree to which jobs are structured, was called the Job Description Questionnaire (JDQ). The instrument is a 45 item check list generally answered by the person supervising the job being measured. Median reliability estimates for this scale were

also in the .80 range. The instrument had low positive correlations with related ratings of the same job obtained from the Dictionary of Occupational Titles.

Finally there was a tendency for the mean level of workers' TBS within a site to be roughly congruent with the scores on the JDQ for the jobs they held at the particular sites.

B. Policy Implications

The findings of the study suggest several policy directions, both "low level" and more general. One concerns the question of selectivity vs. "socialization" (a sociological term which encompasses various modes of education, from formal training to informal learning). Often the success of well-known educational programs, such as the case methods used at Harvard Business School, or the liberal arts programs of top colleges (Oberlin, Reed, Antioch), are due to the fact that they recruit "better" students than other schools. "Better" is here defined strictly, not in terms of the many moral concepts but rather in terms of the end product the educational process is supposed to yield. Thus, for instance, if the success of the Harvard Business School is measured by the income of its graduates five years after they are out of school, as compared to some other school, the question is how much of this difference is due to Harvard's superior training versus how much larger a proportion of the students are sons of corporation presidents. Similarly, the quality colleges seems to draw a larger proportion of their student body compared to other colleges from top high

school students and from homes where there is a positive orientation toward learning. This may account for much of the difference in their graduates' success. All this is not to suggest that schooling makes no difference but that it may account for less of the "output" variance than is often assumed.

Weakness of educational or training procedures as compared to other approaches can be gleaned also from the high costs of averting a death in driver education versus enforced use of seat-belts; the poor results of most psychotherapeutic and rehabilitation programs as compared to reliance on counter drugs or blocking drugs (such as antabuse vs. methadone); and the common failure of information campaigns to get people to curb smoking or drinking.

It should be added that education seems most useful when the changes sought are small and motivation is available, e.g., teaching typing to newly hired personnel on the job. It seems least productive to try to bring about deep far-reaching changes in the person.

The findings of this study--far from definitive, subject to additional checking and expansion--surely add additional power to this general line of thought. They indicate that persons have some set preferences (or "tolerance") in terms of their work which seem not easily changed once they reach maturity, and surely not altered by their participation in job training courses.

What does all this tell the policy maker? First, any optimism expressed, assumed, or implied in a vast network of job

training programs, is ill-founded. By and large it should be assumed that when training programs aim not at providing specific skills (e.g. teach truck driving) but at changing habits (e.g. "generic" goals such as making people more punctual, neat, or conscientious), they will fail, in the simple sense that people who enter and leave them will not be different in any manner relevant to these goals.

A new review of all training programs seems called for--to check what their goals actually are. Specific skills or "generic"? And if "generic", how valid is the evidence, if any, that suggests impact lasting beyond graduation?

While our purpose was not and is not to evaluate presently funded or other training programs, the great resistance we encountered in letting researchers into these programs--even when we were supported by the Department of Labor which funded these programs--is indicative of how far off many of these programs are of their stated goals, or any others.

Of those programs we came to know, the rationale for their existence or evidence of the efficacy of their efforts, surely elude us.

Also, the ethical and social issues raised by "generic" education, as distinct from technical (or skill) training, must be reviewed. Even if it were possible to take persons not tolerant of bureaucratic structure and change them to become tolerant, even if one could take "untight" persons and "tighten" them up (as many training programs imply), one wonders if this could be justified. For one, uptight people may well be driven, unhappy persons compared to un-tight ones. Second, the better

jobs may well require a lower level of tightness. And, are the persons subject to such programs aware of the psychic implications of such reshaping?

It seems to us it would be easier (though far from easy) and morally more acceptable, to change job-specifications to suit the predispositions of the employees rather than shape employees to fit the job specifications to suit the predispositions of the employees rather than shape employees to fit the job specifications.

A third approach seems superior to both in terms of economy of effort and cost and moral considerations--namely match people at jobs better on the basis of the people's predispositions and the jobs' specifications.

Thus it would follow from our study that all main categories of jobs should be characterized from the viewpoint of the level of bureaucratization (or tightness) they presently require; that persons seeking jobs or transfers be given the opportunity to test themselves or be tested by the Tolerance for Bureaucratic Structure scale and their score interpreted to them; and that people be advised to seek jobs which are compatible with their predispositions or at least, to avoid those in which they are likely to be uncomfortable. We do not suggest at this state of the art very fine differences be relied upon, but if jobs are ranked on a seven-point scale from very highly bureaucratic (e.g., assembly line) to very lowly bureaucratic (e.g., taxi driving), no person who scores 83 on the Bureaucratic Tolerance Scale, be advised to work on an assembly line, etc., etc.

Of course, other considerations, such as scarcity of appropriate jobs available and income differences will affect people's choices, but surely no public funds should be invested to try to fit square pegs into round holes because it costs too much, hurts too much, and will not work.

High school kids as well as drop-outs may well be counseled as to their scores and the suitable range of the jobs for them. As a matter of fact, this is an area into which we believe this research should be extended.

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The scoring key follows:

Strongly Disagree	=	0
Disagree	=	1
Omit	=	2
Agree	=	3
Strongly Agree	=	4

Questions where the scoring is reversed are indicated by a R following the space for the response. The scoring key for reversed (R) items is:

Strongly Disagree	=	4
Disagree	=	3
Omit	=	2
Agree	=	1
Strongly Agree	=	0

Items where the individual has not responded or where his response is unclear are scored as 2. If more than 5 questions are omitted the score should be disregarded.

1 _____
 2 _____ R
 3 _____
 4 _____
 5 _____ R
 6 _____
 7 _____ R
 8 _____
 9 _____
 10 _____ R
 11 _____ R
 12 _____ R
 13 _____ R
 14 _____
 15 _____

16 _____
 17 _____ R
 18 _____
 19 _____ R
 20 _____ R
 21 _____
 22 _____
 23 _____ R
 24 _____ R
 25 _____
 26 _____ R
 27 _____
 28 _____ R
 29 _____ R
 30 _____

31 _____ R
 32 _____
 33 _____ R
 34 _____ R
 35 _____
 36 _____ R
 37 _____
 38 _____ R
 39 _____ R
 40 _____ R
 41 _____ R
 42 _____ R
 43 _____

V. THE NORMATIVE GROUP

The normative group for the instrument consists of 2,592 individuals either employed in a variety of jobs or enrolled in training programs for particular jobs. Most respondents were located in eastern states and live in urban areas. Data were gathered from a total of 15 distinct groups. The groups were selected because they represent a variety of blue and white collar jobs, and typical federally-sponsored job training programs. Table 1 presents a listing of the groups and the number of individuals obtained in each group.

The demographic characteristics of the normative group are presented in Table 2.

It should be noted that the normative data provided by these groups should be taken only as suggestive. The sample obtained is not representative of the work population as a whole nor any general segment of the working population. Consequently the norm tables provide only a rough estimate of the range of actual scores and of the level of a particular group. It is strongly suggested that persons attempting to use this scale develop their own normative data.

Table 1

Sites in Which Data were Obtained on the
Tolerance for Bureaucratic Structure
Instrument

	<u>Site</u>	<u>Number</u>
1	Garment Factory Workers.....	162
2	Nurses' Aides.....	195
3	Collegiate Nursing Students.....	173
4	Office Temporary Workers.....	348
5	Unemployed Workers.....	73
6	Miscellaneous Clerks.....	123
7	Taxi Drivers.....	332
8	Clerk Trainees.....	173
9	Bank Clerks.....	205
10	Bank Clerk Trainees.....	126
11	Worker Incentive Program (WIN) Trainees.....	118
12	Concentrated Employment Program (CPE) Trainees.....	279
13	Electronic Assembly Workers.....	30
14	University Secretaries.....	168
15	Textile Printing Factory.....	47

Table 2

Demographic Characteristics of the
Normative Group

Sex:	Male	50%
	Female	50%
Age:	Mean	33.55
	Standard Deviation	14.26
Years of Schooling	Mean	12.62
	Standard Deviation	6.70
Religious Preference	Protestant	39%
	Catholic	35%
	Jewish	17%
Race	White	57
	Black	31
	Other	12

VI. NORMS

As was described in the previous section describing the norming sample, the norms presented here can best be thought of as suggestive rather than definitive. Table 3 presents the conversion of the raw scores on the instrument to t and z scores as well as percentile scores. It should be noted that the percentile scores were obtained by normalizing the distribution and then computing percentile scores. The norms presented in Table 3 use all the groups described.

Because there is a relationship between the kinds of work at which an individual is employed and the scores on the TBS, separate tables of norms are presented for various categories of jobs. Those in the sample who were actually employed at the time of testing were divided into four categories based on a division of jobs into blue-collar and white-collar, structured jobs and unstructured jobs. The structured white-collar group includes nurses' aides and bank clerks. The unstructured white-collar jobs include college secretaries and office temporary workers. The structured blue-collar jobs include electronic assemblers, garment workers, and chemical printing operators. The only unstructured blue-collar job is taxi driver. Tables 4 through 7 present norms for these groups.

Table 3

Norms on Tolerance for Bureaucratic
Structure Instrument for all
Groups

<u>Raw Score</u>	<u>Z</u>	<u>T</u>	<u>Percentile</u>
43	-2.63	26	1
44	-2.58	26	1
45	-2.52	26	1
46	-2.47	26	1
47	-2.42	27	1
48	-2.36	27	1
49	-2.31	27	1
50	-2.26	27	1
51	-2.21	27	1
52	-2.15	28	1
53	-2.10	28	2
54	-2.05	29	2
55	-1.99	29	2
56	-1.94	30	2
57	-1.89	31	3
58	-1.83	31	3
59	-1.78	32	3
60	-1.73	32	4
61	-1.67	32	4
62	-1.62	33	4
63	-1.57	33	5

continued

Table 3 Continued

<u>Raw Score</u>	<u>Z</u>	<u>T</u>	<u>Percentile</u>
64	-1.51	33	5
65	-1.46	34	6
66	-1.41	35	6
67	-1.35	35	7
68	-1.30	35	7
69	-1.25	36	8
70	-1.19	36	8
71	-1.14	37	9
72	-1.09	37	9
73	-1.03	37	10
74	- .98	38	11
75	- .93	38	12
76	- .87	39	13
77	- .82	39	14
78	- .77	40	15
79	- .71	40	17
80	- .66	41	18
81	- .61	41	19
82	- .55	42	21
83	- .50	42	22
84	- .45	43	24
85	- .39	43	26

continued

Table 3 Continued

<u>Raw Score</u>	<u>Z</u>	<u>T</u>	<u>Percentile</u>
86	-.34	44	28
87	-.29	45	31
88	-.23	46	33
89	-.18	46	35
90	-.13	47	37
91	-.07	47	39
92	-.02	48	41
93	+.03	48	44
94	.09	49	47
95	.14	50	49
96	.19	50	52
97	.25	51	55
98	.30	52	57
99	.35	52	60
100	.41	53	62
101	.46	54	64
102	.51	54	67
103	.57	55	69
104	.62	56	71
105	.67	56	73
106	.73	57	75
107	.78	57	77
108	.83	58	79
109	.88	59	81
110	.94	59	82

continued

Raw

1	1	1
1	1	2
1	1	3
1	1	4
1	1	5
1	1	6
1	1	7
1	1	8
1	1	9
1	2	0
1	2	1
1	2	2
1	2	3
1	2	4
1	2	5
1	2	6
1	2	7
1	2	8
1	2	9
1	3	0
1	3	1
1	3	2
1	3	3
1	3	4

Table 3 Continued

<u>Raw Score</u>	<u>Z</u>	<u>T</u>	<u>Percentile</u>
11	.99	60	84
12	1.04	61	85
13	1.10	61	87
14	1.15	62	88
15	1.20	62	89
16	1.26	63	90
17	1.31	64	91
18	1.36	64	92
19	1.42	65	93
20	1.47	66	94
21	1.52	67	95
22	1.58	67	96
23	1.63	68	96
24	1.68	69	97
25	1.74	70	98
26	1.79	70	98
27	1.84	71	98
28	1.90	71	98
29	1.95	72	99
30	2.00	72	99
31	2.06	73	99
32	2.11	74	99
33	2.16	74	99
34	2.22	74	99

continued

Table 3 Continued

<u>Raw Score</u>	<u>Z</u>	<u>T</u>	<u>Percentile</u>
135	2.27	75	99
136	2.32	75	99
137	2.38	76	99
138	2.43	78	99
139	2.48	79	99
140	2.54	79	99
141	2.59	79	99
142	2.64	79	99
143	2.70	79	99
144	2.75	80	99
145	2.80	81	99
146	2.86	81	99
147	2.91	82	99
148	2.96	82	99
149	3.02	83	99
150	3.07	84	99
151	3.12	84	99
152	3.18	--	99
153	3.23	--	99
154	3.28	--	99

Table 4

Norms on Tolerance for Bureaucratic
Structure Instrument for Blue
Collar Structured Groups

	<u>Z</u>	<u>Z'</u>		<u>Z</u>	<u>Z'</u>
43	-3.7	13	65	-2.1	29
44	-3.7	13	66	-2.1	29
45	-3.6	14	67	-2.0	30
46	-3.5	15	68	-1.9	31
47	-3.4	16	69	-1.8	32
48	-3.4	16	70	-1.8	32
49	-3.3	17	71	-1.7	33
50	-3.2	18	72	-1.6	34
51	-3.1	19	73	-1.5	35
52	-3.1	19	74	-1.5	35
53	-3.0	20	75	-1.4	36
54	-2.9	21	76	-1.3	37
55	-2.9	21	77	-1.3	37
56	-2.8	22	78	-1.2	38
57	-2.7	23	79	-1.1	39
58	-2.6	24	80	-1.0	40
59	-2.6	24	81	-1.0	40
60	-2.5	25	82	- .9	41
61	-2.4	26	83	- .8	42
62	-2.3	27	84	- .7	43
63	-2.3	27	85	- .7	43
64	-2.2	28	86	- .6	44

continued

Table 4 Continued

	<u>Z</u>	<u>Z'</u>		<u>Z</u>	<u>Z'</u>
87	- .5	45	114	1.4	64
88	- .5	45	115	1.5	65
89	- .4	46	116	1.6	66
90	- .3	47	117	1.7	67
91	- .2	48	118	1.7	67
92	- .2	48	119	1.8	68
93	- .1	49	120	1.9	69
94	0	50	121	2.0	70
95	+ .1	51	122	2.0	70
96	.1	51	123	2.1	71
97	.2	52	124	2.2	72
98	.3	53	125	2.2	72
99	.4	54	126	2.3	73
100	.4	54	127	2.4	74
101	.5	55	128	2.5	75
102	.6	56	129	2.5	75
103	.6	56	130	2.6	76
104	.7	57	131	2.7	77
105	.8	58	132	2.8	78
106	.9	59	133	2.8	78
107	.9	59	134	2.9	79
108	1.0	60	135	3.0	80
109	1.1	61	136	3.0	80
110	1.2	62	137	3.1	81
111	1.2	62	138	3.2	82
112	1.3	63	139	3.3	83
113	1.4	64	140	3.3	83

continued

Table 4 Continued

	Z	Z'
141	3.4	84
142	3.5	85
143	3.6	86
144	3.6	86
145	3.7	87
146	3.8	88
147	3.8	88
148	3.9	89
149	4.0	90
150	4.1	91

* Z' is a standard Score with a Mean of 50 and a Standard Deviation of 10.

Table 5

Norms for Bureaucratic Structure
Instrument for Blue Collar
Unstructured Group

	<u>Z</u>	<u>Z'</u> *		<u>Z</u>	<u>Z'</u>
43	-2.3	27	66	-1.0	40
44	-2.3	27	67	- .9	41
45	-2.2	28	68	- .9	41
46	-2.1	29	69	- .8	42
47	-2.1	29	70	- .8	42
48	-2.0	30	71	- .7	43
49	-1.9	31	72	- .6	44
50	-1.9	31	73	- .6	44
51	-1.8	32	74	- .5	45
52	-1.8	32	75	- .5	45
53	-1.7	33	76	- .4	46
54	-1.7	33	77	- .4	44
55	-1.6	34	78	- .3	47
56	-1.6	34	79	- .2	48
57	-1.5	35	80	- .2	48
58	-1.4	36	81	- .1	49
59	-1.4	36	82	- .1	49
60	-1.3	37	83	0	50
61	-1.3	37	84	0	50
62	-1.2	38	85	+ .1	51
63	-1.2	38	86	.1	51
64	-1.1	39	87	.2	52
65	-1.0	40	88	.3	53

continued

Table 5 continued

	<u>Z</u>	<u>Z'</u>		<u>Z</u>	<u>Z'</u>
89	.3	53	114	1.7	67
90	.4	54	115	1.8	68
91	.4	54	116	1.8	68
92	.5	55	117	1.9	69
93	.5	55	118	2.0	70
94	.6	56	119	2.0	70
95	.7	57	120	2.1	71
96	.7	57	121	2.1	71
97	.8	58	122	2.2	72
98	.8	58	123	2.2	72
99	.9	59	124	2.3	73
100	.9	59	125	2.3	73
101	1.0	60	126	2.4	74
102	1.1	61	127	2.5	75
103	1.1	61	128	2.5	75
104	1.2	61	129	2.6	76
105	1.2	62	130	2.6	76
106	1.3	63	131	2.7	77
107	1.3	63	132	2.8	78
108	1.4	64	133	2.8	78
109	1.5	65	134	2.9	79
110	1.5	65	135	2.9	79
111	1.6	66	136	3.0	80
112	1.6	66	137	3.0	80
113	1.7	67	138	3.1	81

continued

Table 5 Continued

	Z	Z'
139	3.2	82
140	3.2	82
141	3.3	83
142	3.3	83
143	3.4	84
144	3.4	84
145	3.5	85
146	3.5	85
147	3.6	86
148	3.7	87
149	3.7	87
150	3.8	88
151	3.8	88
152	3.9	89
153	3.9	89
154	4.0	90

* Z' is a standard score with a mean of 50 and a standard deviation of 10.

Table 6

Norms for Tolerance for Bureaucratic Structure
Instrument for White Collar
Structured Groups

	Z	Z' *		Z	Z'
43	-4.0	10	64	-2.5	25
44	-3.8	12	65	-2.4	26
45	-3.8	12	66	-2.3	27
46	-3.7	13	67	-2.2	28
47	-3.7	13	68	-2.2	28
48	-3.6	14	69	-2.1	29
49	-3.5	15	70	-2.0	30
50	-3.5	15	71	-2.0	30
51	-3.4	16	72	-1.9	31
52	-3.3	17	73	-1.8	32
53	-3.2	18	74	-1.7	33
54	-3.2	18	75	-1.7	33
55	-3.1	19	76	-1.6	34
56	-3.0	20	77	-1.5	35
57	-3.0	20	78	-1.5	35
58	-2.9	21	79	-1.4	36
59	-2.8	22	80	-1.3	37
60	-2.7	23	81	-1.2	38
61	-2.7	23	82	-1.2	38
62	-2.6	24	83	-1.1	39
63	-2.5	25	84	-1.0	40

continued

Table 6. Continued

	<u>Z</u>	<u>Z'</u>		<u>Z</u>	<u>Z'</u>
85	-1.0	40	111	.9	59
86	- .9	41	112	1.0	60
87	- .8	42	113	1.1	61
88	- .7	43	114	1.1	61
89	- .7	43	115	1.2	62
90	- .6	44	116	1.3	63
91	- .5	45	117	1.3	63
92	- .4	46	118	1.4	64
93	- .4	46	119	1.5	65
94	- .3	47	120	1.6	66
95	- .2	48	121	1.6	66
96	- .2	48	122	1.7	67
97	- .1	49	123	1.8	78
98	0	50	124	1.8	68
99	.1	51	125	1.9	69
100	.2	51	126	2.0	70
101	.3	52	127	2.1	71
102	.3	53	128	2.1	71
103	.4	53	129	2.2	72
104	.5	54	130	2.3	73
105	.6	55	131	2.3	73
106	.6	56	132	2.4	74
107	.7	56	133	2.5	75
108	.8	57	134	2.6	76
109	.8	58	135	2.6	76
110	.9	58	136	2.7	77

continued

Table 6 Continued

	Z	Z'
137	2.8	78
138	2.8	78
139	2.9	79
140	3.0	80
141	3.1	81
142	3.1	81
143	3.2	82
144	3.3	83
145	3.3	83
146	3.4	84
147	3.5	85
148	3.6	86
149	3.6	86
150	3.7	87
151	3.8	88
152	3.8	88
153	3.9	89
154	4.0	90

* Z' is a standard score with a mean of 50 and a standard deviation of 10.

Table 7

Norms on Tolerance for Bureaucratic Structure
Instrument for White Collar
Unstructured Group

	Z	Z' *		Z	Z'
43	-2.9	21	64	-1.7	33
44	-2.9	21	65	-1.6	34
45	-2.8	22	66	-1.6	34
46	-2.7	23	67	-1.5	35
47	-2.7	23	68	-1.5	35
48	-2.6	24	69	-1.4	36
49	-2.6	24	70	-1.3	37
50	-2.5	25	71	-1.3	37
51	-2.4	26	72	-1.2	38
52	-2.4	26	73	-1.2	38
53	-2.3	27	74	-1.1	39
54	-2.3	27	75	-1.1	39
55	-2.2	28	76	-1.0	40
56	-2.2	28	77	- .9	41
57	-2.1	29	78	- .9	41
58	-2.0	30	79	- .8	42
59	-2.0	30	80	- .8	42
60	-1.9	31	81	- .7	43
61	-1.9	31	82	- .7	43
62	-1.8	32	83	- .6	44
63	-1.8	32	84	- .5	45

continued

Table 7 Continued

	Z	Z'		Z	Z'
85	- .5	45	110	1.0	60
86	- .4	46	111	1.0	60
87	- .4	46	112	1.1	61
88	- .3	47	113	1.1	61
89	- .2	48	114	1.2	62
90	- .2	48	115	1.3	63
91	- .1	49	116	1.3	63
92	- .1	49	117	1.4	64
93	.0	50	118	1.4	64
94	.0	50	119	1.5	65
95	.1	51	120	1.5	65
96	.2	52	121	1.6	66
97	.2	52	122	1.7	67
98	.3	53	123	1.7	68
99	.3	53	124	1.8	68
100	.4	54	125	1.8	68
101	.4	54	126	1.9	69
102	.5	55	127	2.0	70
103	.6	56	128	2.0	70
104	.6	56	129	2.1	71
105	.7	57	130	2.1	71
106	.7	57	131	2.2	72
107	.8	58	132	2.2	72
108	.9	59	133	2.3	73
109	.9	59	134	2.4	74

continued

Table 7 Continued

	Z	Z'
135	2.4	74
136	2.5	75
137	2.5	75
138	2.6	76
139	2.7	77
140	2.7	77
141	2.8	78
142	2.8	78
143	2.9	79
144	2.9	79
145	3.0	80
146	3.0	80
147	3.1	81
148	3.1	81
149	3.2	82
150	3.2	82
151	3.3	83
152	3.3	83
153	3.4	84
154	3.5	85
155	3.5	85

* Z' is a standard score with a mean of 50 and a standard deviation of 10.

VII. RELIABILITY OF THE TOLERANCE FOR BUREAUCRATIC
STRUCTURE INSTRUMENT

Two methods were used to estimate the reliability of the instrument. In each of the sites where the instrument was tested measures of internal consistency were computed. Table 8 presents these data.

Table 8

<u>Internal Consistency of JDQ by Site</u>		
<u>Site</u>	<u>Reliability*</u>	<u>N</u>
Garment Factory Workers	.804	162
Nurses Aides	.717	195
Nursing Students	.772	173
Office Temporary	.813	348
Unemployed		73
Miscellaneous Clerks		123
Taxi Drivers	.847	332
Clerk Trainees	.835	173
Bank Clerks	.803	205
Bank Clerk Trainees	.799	126
Worker Incentive Program Trainees	.735	118
Concentrated Employment Program Trainees	.742	279
Electronic Assembly Workers	.785	30
College Secretaries	.862	168
Textile Printing Factory	.814	47

* Coefficient Alpha.

Note that in the majority of cases the reliability of the instrument is approximately .80.

In order to estimate the test-retest stability of the instrument, a sample of trainees enrolled in the WIN and CEP programs were tested a second time after a period ranging from 12 to 18 months following that the initial testing. Table 9 presents the correlations between the first and the second testing.

Note that...

Table 9

<u>Test-Retest Stability of JDQ at Job Training Site</u>		
	First Testing	Second Testing
Mean	102.86	103.35
Standard Deviation	13.72	13.49
Number	120	120
correlation .634		

VIII. VALIDITY OF THE TOLERANCE FOR BUREAUCRATIC STRUCTURE INSTRUMENT

Four methods were used to establish the validity of the TBS. Initially correlations were obtained between scores on the instrument and supervisory ratings. Then the scores on the TBS were related to retention in structured jobs and to work history variables. The third method was to relate scores on

the instrument to expressed job satisfaction. The final method was to relate the average score on the TBS for a particular site to the degree of structure of the job as measured in that site.

Supervisory ratings were obtained in the bank clerk site. Table 10 presents the correlation between supervisory ratings and scores on the TBS for a group of entry workers. Table 11 presents similar data for a group of workers who had been employed for longer periods of time.

Table 10
Correlations Between Tolerance for Bureaucratic
Structure of Entry Workers and Supervisory
Ratings 6 Months Later at Bank
Clerk Site

Supervisory Rating	Correlation with JDQ	N
Effort	.086	144
Initiative	.079	144
Promotion Potential	.181*	144
Accuracy	.015	144
Speed	.000	144
Job Knowledge	.090	144
Learning Ability	-.076	144
Emotional Stability	.112	144
Relations with co-workers	.175*	144
Relations with Superiors	.216**	144
Punctuality	.114	144
Attendance	.005	144
Appearance	.098	144
Rules and Regulations	.125	144

* p < .05

**

Table 11

Correlations Between Tolerance for Bureaucratic
Structure of Long Term Workers and
Supervisory Ratings at Bank
Clerk Site

Supervisory Rating	Correlation with JDQ	N
Effort	.222*	61
Initiative and Responsibility	.272*	61
Promotion Potential	.206	61
Accuracy	.288*	61
Speed	.036	61
Job Knowledge	.163	61
Learning Ability	.110	61
Emotional Stability	.085	61
Dependability	.261*	61
Relations with Co-workers	.294*	61
Relations with Superiors	.365*	61
Punctuality	.165	61
Attendance	.342**	61
Appearance and Grooming	.178	61
Attitude toward Rules and Regulations	.233*	61 61

* $p < .05$

** $p < .01$

In two job training programs sponsored by the federal government, data were obtained relating TBS scores to supervisory ratings of trainees on a number of performance traits. Table 12 presents the overall correlations. Note that all the correlations are small, though positive and in the expected direction.

Table 12

Correlations Between Tolerance for Bureaucratic
Structure and Ratings at CEP and WIN Sites

Supervisor Rating	Correlation with JDQ	N
Regular Attendance	.114*	265
Promptness	.129*	265
Ability to Follow Rules and Regulations	.115*	265
Ability to take Orders	.110*	265
Ability to Stay with Routine Tasks	.137*	265
Ability to Think in terms of Long Term Goals	.118*	265
* $p < .05$		

Retention data were obtained in three sites. Table 13 presents the mean scores of those retained and those who were not retained in a textile printing factory. Note that the group who remained on the job had significantly higher scores on the TBS.

Table 13

Means and Standard Deviation of Tolerance for Bureaucratic
Structure in Textile Printing Machine Tenders Site

	Workers who Remained	Workers who Left
Mean	148.86	139.17
Standard Deviation	15.20	14.86
Number	22	22
$t = 2.16 (p < .05)$		

Table 14 presents similar data for the clerical training program. In this case the data relate to those who were enrolled, completed the training, and were placed in jobs as contrasted with those who did not complete the program subsequent to enrollment.

Table 14

Means and Standard Deviations of Tolerance
for Bureaucratic Structure Scores
of those Trainees Retained
and Those Dropped at
Clerk Training
Site

	Retained	Dropped
Mean	107.86	101.85
Standard Deviation	14.86	16.34
Number	21	26
$t = 1.32^*$		
* $p < .10$		

Table 15 presents the scores on the TBS for trainees enrolled in the Bank Clerk Training Program. Comparative data are presented for those who remained on the job after three months and for those who did not remain on the job after that period of time had elapsed.

In each site described above, there is a slight tendency for the workers who stayed on the job or who completed the training program to have higher TBS scores.

The third method of establishing the validity of the instrument consisted of relating scores on the TBS to measures of job satisfaction. The job satisfaction measure chosen was

the Brayfield Scale.* This is a general job satisfaction measure giving an overall measure of the degree of job satisfaction. Table 16 presents the correlation between satisfaction and scores on the TBS for a number of sites.

Table 15

Mean Scores on Tolerance for Bureaucratic
Structure Instrument for those
Retained in Bank Clerk
Trainees Site

	Group that Remained on Job	Group that Left job
Mean	50.44	45.74
Standard Deviation	16.14	17.93
Number	63	63
$t = 1.72^*$		

* $p < .05$

Table 16

Correlations Between JDQ and Job Satisfaction
Various Sites

Site	Correlation Between JDQ and Satisfaction
Nurses' Aides	.369
Garment Operators	.473
Electronic Assemblers	.270
Office Temps	.409
College Secretaries	.387
Taxi Drivers	.386

Note in each case that there is a positive correlation between job satisfaction and scores on the JDQ. There is a slight tendency for those more tolerant of structure to describe themselves as more satisfied with their jobs.

The final estimate of the validity of the instrument was obtained in two ways. Initially a job title and description was obtained for each individual who responded to the TBS. Using that information, the Worker Trait section of the Dictionary of Occupational Titles was used to gain an estimate of the degree of structure required on the job. Table 17 presents the correlations between the traits required by workers on particular jobs and the scores on the TBS.

Table 17

Correlations Between Tolerance for Bureaucratic
Structure and Dictionary of Occupational
Title Worker Traits

Trait	Correlation with JDQ	Number
Situations involving a preference for activities of a routine organized concrete nature	.071*	1334
Situations involving repetitive or short cycle operations	.000	1334
Situations involving doing things under specific instructions	.210**	1334
Situations involving the precise attainment of set limits	.188**	1334
* p < .05		
** p < .01		

As a second means of obtaining an estimate of the degree of structure required by the jobs in the sample, a 45 question instrument was developed to rate the jobs on the degree of structure required. Table 18 presents the scores on the TBS for sites with various degrees of structure.

Table 18

Mean Scores on Job Description Questionnaire
Scores by W Site

Site Name	Mean JDQ Score	Mean TBS Score
Taxi Drivers	6	83.37
College Secretaries	8	87.82
Office Temporaries	13	95.88
Bank Clerks*	18	97.27
Electronic Assemblers	23	103.83
Garment Operators	26	90.83
Machine Tenders and Operators	27	101.14
Nurses' Aides	31	99.56

Note that, with one exception, there is a tendency for the mean level of structure required in a job to correspond roughly to the mean TBS score of workers in that site. The exceptional site is a group of garment workers. They are an unusual group because many of them are immigrants with little formal education in the United States and locked into their present job by language barriers and ethnic group ties.

IX. SUGGESTED USES OF THE INSTRUMENT

The research which has been completed on the Tolerance for Bureaucratic Instrument suggests that the attribute of personality it is designed to tap is an important dimension along which individuals respond to their jobs. The data suggest that there is some congruence between the actual degree of structure characterizing a work role and the mean level of tolerance among workers who remain in that job. Similarly, there are small relationships between scores on the instrument and performance on these jobs, as measured by supervisory ratings, job retention, and job satisfaction. Note, however, that in each case, the validity coefficients are quite low.

The TBS instrument is relatively transparent, that is the questions openly measure aspects of jobs usually considered important by employers, (even if not liked by workers) and most workers certainly are aware of the normatively expected responses (high tolerance). As a consequence, the instrument may be subject to faking and cannot be recommended as a useful tool for selection purposes. In addition, while the reliability of the instrument makes it quite suitable for research purposes, like most other instruments of its type, it is not adequate for use in selection programs. However, with a cooperative respondent, the instrument may be useful in career and employment counseling by helping the individual understand himself better in relationship to the structural requirements of jobs. It may also have an applied use as an aid in job referral when

other sources of information can be used to confirm or reject hypotheses regarding individuals deprived from their TBS scores.

Nevertheless, the immediate, primary utility of this instrument lies in the area of continued research into problems relating to the current design and management of jobs and the relationship of such roles to the needs and personality attributes of workers.